Manitoba
Energy and Mines
Geological Services

Miscellaneous Publication 91-2, Part D

Mineral Inventory Cards (Supplement to Economic Geology Report ER79-6): Pegmatites (Li, Cs, Ta, Be, Sr, W)

Compiled by P. Athayde
Winnipeg, 1991

Energy and Mines

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92-04183/

MANITOBA ENERGY AND MINES **MINERAL INVENTORY FILE NO. 490**

PRODUCT Lithium	**N.T.S. AREA** 63J/13 SE	**REF.** LI 1

NAME OF PROPERTY:
Lit Group
(Green Bay)

OWNER OR OPERATOR AND ADDRESS
1988 - J.A. Syme
119 Parkside Drive
Winnipeg, Manitoba
R3J 1M1

OBJECT LOCATED: Intersection of outlet stream and lake

MINING DIVISION The Pas

Lat. 54° 51.27'	Long. 99° 38.46'	UNCERTAINTY: 100 m
Sec.	Tp. 68	R. 15 WPM

DESCRIPTION OF DEPOSIT

At least 7 zoned pegmatite dykes cut Archean greenstones and clastics, east of one fault and northeast of another. Both faults strike northeast. The dykes apparently "intrude metabasalts of the Amisk Group, in a 2 km zone trending approximately 55° from the westernmost pegmatite" (Mulligan, 1965 _in_ Cerny et al., 1981). The dykes strike north to northwest and dip vertically. "Several may be gently-dipping bodies" (Bannatyne, 1985). The main, most westerly dyke outcrops along the west side of a rock ridge, 4.5 to 6 m high, and intrudes quartzose metasediments and amphibolites (Bannatyne, 1985). It is 27 m (90 ft) wide and is exposed in 16 cross-trenches for a length of 183 m (600 ft) (see Fig. 1). Individual dykes are usually less than 244 m (800 ft) long.

The outer zones of the pegmatites contain pink aplite and coarse feldspar, muscovite, tourmaline, and beryl. Spodumene, quartz, cleavelandite, and tourmaline form rude core zones with interstitial coarse feldspar. Spodumene is usually coarse-grained and is sometimes altered. It is most prevalent in the central 9 m (30 ft) of the main dyke. In this dyke, spodumene crystals (up to 35 cm long) occur either in clusters, over widths of 6 m or more, or associated with coarse tourmaline and perthite megacrysts; some spodumene crystals show a preferred orientation of 45° to 55° (Bannatyne, 1985).
One of two parallel dykes south of the main outcrop, is 5 m wide, and contains spodumene crystals in pods (up to 33 cm across). In other dykes, "coarse grained spodumene is abundant in some lenticular bands and fine grained spodumene is distributed through some aplitic patches" (Bannatyne, 1985). Beryl occurs as white, anhedral to subhedral crystals less than 1 inch (2.5 cm) in diameter in three of the seven dykes.

Columbite-tantalite and sparse minute grains of pyrite on chalcopyrite were found in thin sections (Green Bay Mining & Exploration Ltd., Corporation File). Cerny (1987) reported contents of 3920 ppm Rb, 403 ppm Cs, and a K/Rb ratio of 34, for blocky K-feldspars.

Associated minerals or products of value
beryl, feldspar, gold, (tantalum, niobium).

DESCRIPTION OF DEPOSIT cont'd

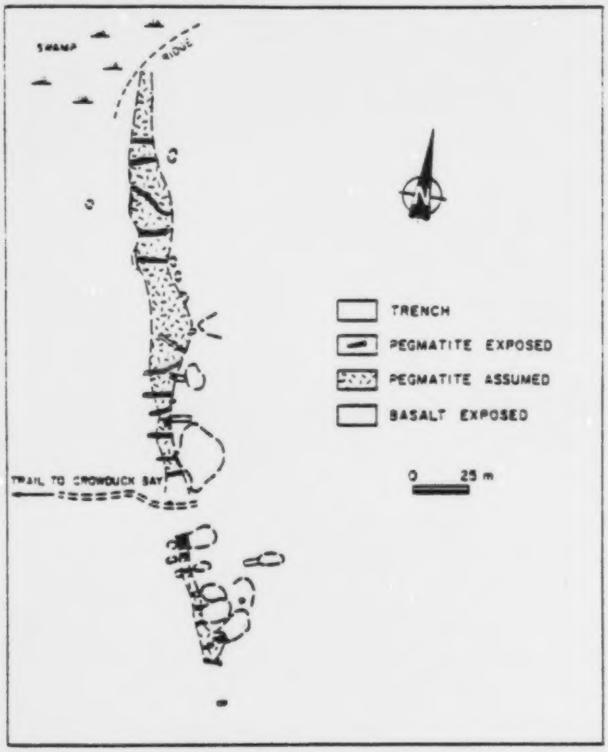

Figure 1: *Green Bay main pegmatite (from Černý et al., 1981, Fig. 164).*

(source: Bannatyne, 1985: 79).

HISTORY OF EXPLORATION AND DEVELOPMENT

The deposit is located on the north side of a small lake between Roberts Lake and the south end of Crowduck Bay. The railroad and Provincial Road 393 at Osborne Lake are approximately 23 km northwest.

Early in 1953 ten claims were staked over the main part of the deposit. These were cancelled the following year.

Lit Nos. 1-5 (P 31758-62) were staked by J.J. Johnson in 1954. In 1955 Lit Nos. 6-18 (P 35014-26) were added by J.A. Syme. All the Lit claims were assigned to Green Bay Uranium Limited in 1956 which changed its name to Green Bay Mining & Exploration Ltd.

Early in 1956, before drilling commenced, samples containing more than 2% Li_2O and containing no contaminating accessory lithium minerals and no high iron content were reported (Northern Miner, January 12, 1956). A shipment of

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

136 kg (300 lbs) of spodumene was sent to Ottawa for testing in 1956. This sample assayed 1.19% Li_2O, with minor NbO_5. Ore dressing tests concluded that good liberation and separation could not be effected (Mineral Dressing and Process Metallurgy Rept. in Green Bay Mining & Exploration Ltd., Corporation File).

Over 6096 m (20 000 ft) of diamond drilling was done on Lit Nos. 1-4, with at least 3048 m (10 000 ft) of this on the main dyke. Results of the drilling on dykes 1, 3, 5, 7 were reported to be "promising". Assays of 2.42% to 7.28% Li_2O were reported from Dyke 5 (Green Bay; Corporation File). Dyke 5 was apparently 305 m long x 12 m wide (1000 x 40 ft); Dyke No. 7, over 457 m x 24 m (1500 x 80 ft). Several of the holes went deeper than 305 m (1000 ft). Drilling on Lit 10, 16 and 17 amounted to 1950 m (6399 ft). Gold was also found on the property, with a 3.3 kg (7.25 lb) sample across 3.4 m (11 ft) yielding approximately $5.40/tonne ($6.00/ton) (Green Bay; Corporation File).

Lithium tonnage estimates vary. An unsubstantiated visual estimate in September, 1956 suggested up to 9-11 million tonnes (10-12 million tons) of Li_2O occur on the entire group. In mid-March the main dyke was estimated to contain 1.8 million tonnes (2 million tons) grading 1.4% Li_2O to a depth of 305 m (1000 ft) in the main dyke (Northern Miner, October 25, 1956; Mulligan, 1965, p. 81). A reserve estimate of 1 815 000 tonnes grading 1.4% Li_2O was reported by Bannatyne (1985). In 1957, the estimate was revised to 1.72 million tonnes (1.9 million tons) averaging 1.3% Li_2O or 2.72 million tonnes (3.0 million tons) at 1.0% Li_2O in the main dyke (Mulligan, 1957a, 1957b). By March, 1958 twelve different tonnage estimates had been made (Northern Miner, March 13, 1958). Also by that time, a permanent camp and a 4-mile road into the property had been built. Plans for a heavy media separation plant on the property were being prepared by the Lummus Co. of New York together with Knowles Associates and the Colorado School of Mines (Green Bay Mining & Exploration Ltd., Corporation File).

No further work on the property is known since 1957. The claims were assigned to J.A. Syme in 1963.

Several airborne surveys were done in the area in 1948 - 1973:

Airborne Permit No.	Company/Year	Survey	Assessment File No.
1 & 2	Inco/1948 Canadian Nickel/1951	Aeromag	91614
19	Canadian Nickel/1957	AEM	91624
54	H.B.E.D./1965	Helicopter EM & radiometric	91650
116	Falconbridge Nickel Mines Limited/1973	AEM & AMAG	91564

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

In 1980, J.A. Syme cancelled the Lit Nos. 6-18 claims and obtained Explored Area Lease No. 40 for the Lit Nos. 1-4 claims.

Sampling and detailed geological mapping (Scale 1:1200) of the deposit was done by Cerny et al.(1981, p. 155). The analysis of 4 samples of "core muscovite" had an average content (in wt %) of 0.171% Li, 0.792% Rb, 0.0702% Cs, 0.0021% Be; 9 samples of beryl averaged 0.331% Li, 0.903% Na, 0.939% Cs; 3 samples of spodumene averaged 0.23% Na_2O, 0.943% Fe as Fe_2O_3 (Cerny et al., 1981, p. 192).

The Lit Nos. 6-18 claims were restaked under Nor 5 and 6 (W 49000, 49001) by Ross Colon and Moses Crane, respectively, for Noranda Exploration Company Limited in 1983. The Nor 6 claim was cancelled in 1987; the Nor 5 in 1988.

Explored Area Lease No. 40 held by J.A. Syme is still in effect.

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b Non-confidential Assessment Files; File Nos. 91564, 91614, 91624, 91650.

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Map 2566 G, Herb Lake, (Aeromagnetic), Scale 1:63 360 - Manitoba Mines Branch and Geological Survey of Canada.

Map 36063G, Wekusko Lake, (Airborne gamma-ray spectrometry), Scale 1:250 000, Geological Survey of Canada and Province of Manitoba (1979).

MAP REFERENCES cont'd

Map 1801, Reed and Wekusko Lakes region, (Geology), Scale 1:126 720 - Accompanying Memoir by Alcock (1920), Geological survey of Canada.

Map 268A, The Pas sheet, Manitoba and Saskatchewan, (Geology), Scale 1:506 880 - Accompanying Marginal Notes by Wright (1934), Geological Survey of Canada.

Map 48-22, Crowduck Bay, (Geology), Scale 1:31 680 - Accompanying Marginal Notes by Frarey (1948), Geological Survey of Canada.

Map 987A, Crowduck Bay, (Geology), Scale 1:63 360 - Accompanying Marginal Notes by Frarey (1950), Geological Survey of Canada.

Map 1423A, Wekusko Lake, (Geology), Scale 1:250 000 - Accompanying Report by Bell (1978), Geological Survey of Canada.

Map 1, Geologic compilation of the Snow Lake-Flin Flon-Sherridon area, (Geology), Scale 1:253 440 - Accompanying Paper by Bailes (1971), Manitoba Mines Branch.

Map ER80-1-4, Wekusko Lake pegmatite field, (Geology), Scale 1:100 000 - Accompanying Report by Cerny et al. (1981), Manitoba Energy and Mines.

Claim Map Series, 63J/13 SE, Scale 1:31 680, circa 1976, 1980, 1982, Mining Recording, Manitoba Mines Branch.

REMARKS

Yellowish beryl crystals (6 mm across) were noted in a dyke located about 400 m NE of the campsite at the main dyke (Bannatyne, 1985, p. 79).

Comp./Rev.			SMH	PA
By Date	02-68	02-69	06-76	06-88

MANITOBA ENERGY AND MINES **MINERAL INVENTORY FILE NO.** 491

PRODUCT Lithium **N.T.S. AREA** 63J/13 SE **REF.** LI 2

NAME OF PROPERTY:
Gold Reef -
Sherritt Gordon

OWNER OR OPERATOR AND ADDRESS
1988-

CB 10493 (Fred):
Jim Corman
Box 130
Snow Lake, Manitoba
R0B 1M0

Sparky 1 (W 45441):
W.B. Kobar
Box 1468
The Pas, Manitoba
R9A 1L3

OBJECT LOCATED: Prospect **MINING DIVISION** The Pas

Lat. 54° 50.49'	Long. 99° 44.08'	UNCERTAINTY: 300 m
Sec.	Tp. 67	R. 15 WPM

DESCRIPTION OF DEPOSIT

Three spodumene-bearing pegmatite dykes trend northwest through metamorphosed Precambrian plutonic rocks. The country rocks include gabbro, gabbro porphyry, and quartz diorite (Bannatyne, 1985). Dyke 1 is approximately 69 m (225 ft) north of Dyke 2. Dyke 3 lies 0.8 km (0.5 mi) south of these two (Fig. 1). Dykes 1 and 2 strike 310° (range 285 - 305°) and dip 65° SW (range 50 - 70° SW) for respective lengths of over 518 m (1700 ft) and 343 m (1125 ft). Dyke 1 is 0.6 - 4 m (2-14 ft) wide. Spodumene content increases with width. Dyke 2 is 2 - 10 m (7 - 31 ft) wide. The spodumene content is more regular in Dyke 2. Dyke 3 is 31 m (100 ft) long and 8 m (26 ft) wide. It has a coarser texture than the other two dykes.

Apple green spodumene forms crystals up to 46 cm (18 inches) long, commonly 2.5 to 15 cm long (up to 60 cm long in Dyke 1; 120 cm long in Dyke 3), which are perpendicular or at steep angles to the dyke walls. Some of the crystals are bent or fractured; some stained with red oxide. The spodumene is intergrown with quartz.

Pink K-feldspar, perthite and cleavelandite with muscovite comprise other constituents of the pegmatites, along with minor amounts of black tourmaline and sparse (golden) beryl, red garnets, blue-green triphylite, and blue-green apatite. Some anhedral, white to cream beryl (15 mm across) was noted in Dyke 2 (Bannatyne, 1985). Minor scheelite was reported (Cole, 1942). Cerny (1987) reported contents of 1260 ppm Rb, 84 ppm Cs, and a K/Rb ratio of 95, for blocky K-feldspars.

Associated minerals or products of value
beryl, feldspar, quartz.

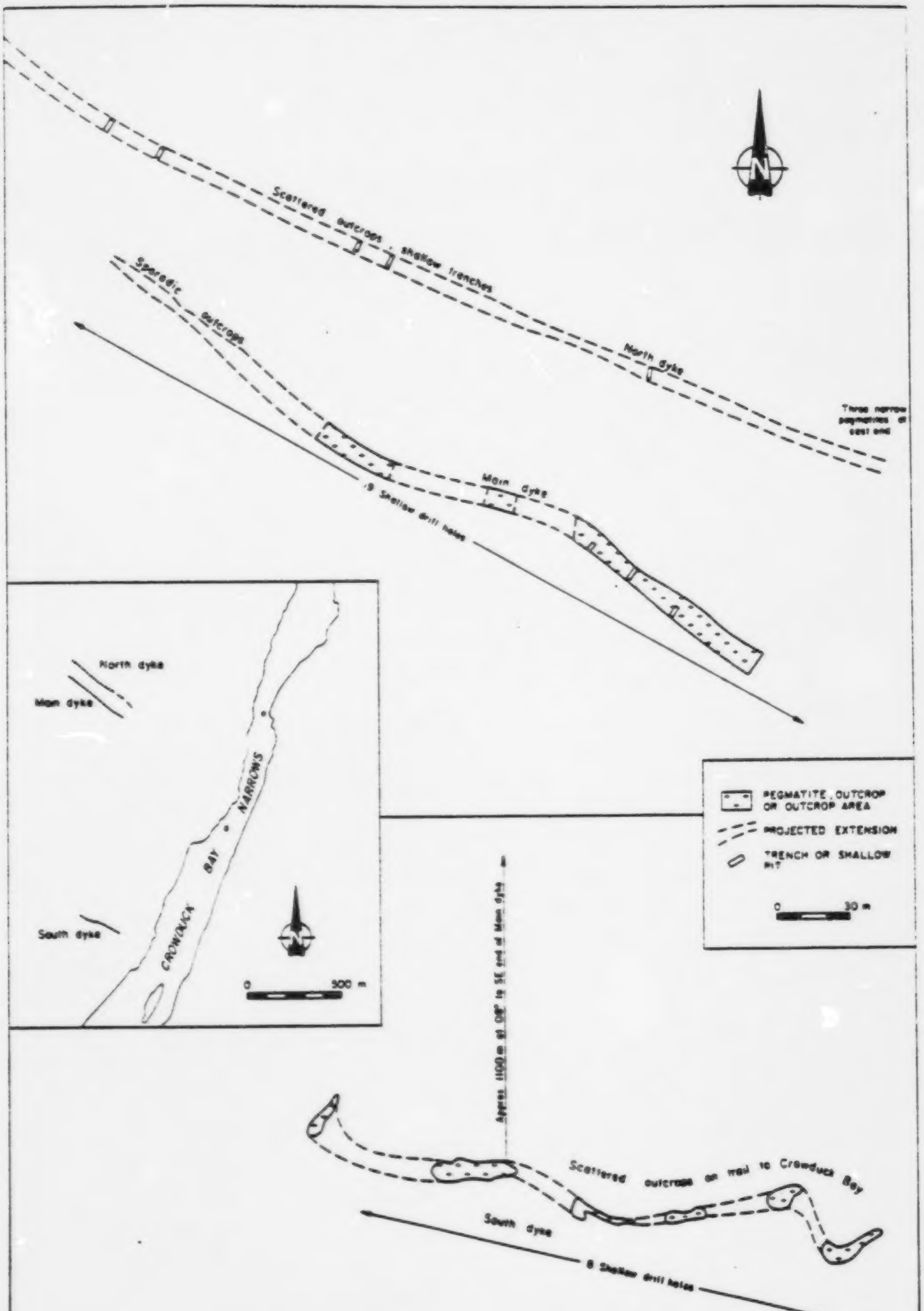
Scattered outcrops, shallow trenches
North dyke
Three narrow pegmatites at east end
Sporadic outcrops
Main dyke
19 Shallow drill holes
N
North dyke
Main dyke
South dyke
CROWDUCK BAY NARROWS
0
500 m
PEGMATITE, OUTCROP OR OUTCROP AREA
PROJECTED EXTENSION
TRENCH OR SHALLOW PIT
0
30 m
Approx. 1100 m at 08° to SE end of Main dyke
Scattered outcrops on trail to Crowduck Bay
South dyke
8 Shallow drill holes

Figure 1:- *Spodumene-bearing "Sherritt Gordon" pegmatites.* (source: Bannatyne, 1985:76).

HISTORY OF EXPLORATION AND DEVELOPMENT

The deposit is located about 0.8 km west of the narrows between Wekusko Lake and Crowduck Bay, opposite a trail leading to the McCafferty prospect east of the narrows. The railroad and Provincial Road 393 are 8 km northwest.

Peter Kobar discovered the deposit in 1931. Dykes 1 and 2 were staked by several people as Gold Reef 5, 6, 8, and 9 (P 166, 157, 154, and 159, respectively). Dyke 3 was covered by Gold Reef 1 (P 160). All the Gold Reef claims were assigned to P. Kobar in 1931.

J.S. DeLury visited the property soon after it was staked. He reported an analysis of spodumene by the Provincial Assayer of Manitoba:

SiO_2	63.94%
Al_2O_3	28.60%
CaO	0.15%
Li_2O	6.80%
Na_2O	0.81%

G.M. Brownell examined the deposit in 1932. He stated that spodumene forms 25-30% of all but the northernmost 91 m (300 ft) of Dyke 2. Dyke 1 contains even more spodumene in places. Dyke 3 averaged approximately 20% spodumene in its westernmost portion (18 m), but the rest of the dyke was barren. F.B. Evans took a channel sample across Dyke 2 which returned 1.5% Li_2O (Brownell, 1932).

The dykes were stripped and blasted before the claims were cancelled in 1938. P. Kobar staked Spodumene (P 4360) over Dykes 1 and 2, and Lithium (P 4361) over Dyke 3 later that year.

In 1940 J.H. Morgan estimated that Dyke 1 might contain as much as 30% spodumene in bodies of "mineable size". He observed 30% spodumene in Dyke 2 with some areas running up to 50%. Coarse crushing followed by mechanical separation or fine crushing and flotation were recommended (Morgan, 1940).

The claims were optioned to Sherritt Gordon Mines, Limited. In 1942 this company diamond drilled 19 shallow holes at 15 m (50 ft) spacings which cut Dyke 2, 15 m (50 ft) below surface. The spodumene zone was indicated to be 274 m (900 ft) long. The average spodumene content is either 13.57% over an average of 5.6 m (18.5 ft) in pegmatitic sections (Rowe, 1954, 1956) or 13.76% across a horizontal distance of 5.6 m (18.6 ft) (Sherritt Gordon, 1942 Annual Report; Mulligan, 1957). The spodumene content was determined by sink-float assays using a liquid with a specific gravity of 3.1 (Rowe, 1956). One deeper hole found the deposit 53 m (175 ft) below surface and returned 23.1% spodumene in 4 m (14 ft) of pegmatite (Rowe, 1954). Seven shallow holes and one deeper hole were drilled on Dyke 3. Diamond drilling amounted to 275 m (901 ft) on Lithium and 469 m (1540 ft) in 18 holes on Spodumene. Drill-indicated reserves were 204 170 tonnes (225 000 tons) of spodumene grading 1.2% Li_2O (Bannatyne, 1973).

Grain counts of spodumene in outcrops yielded up to 18.3% and 14.1% spodumene by weight over lengths of 1.0 m (3.5 ft) and 4.6 m (15.0 ft), respectively. Sherritt Gordon reported that the spodumene could be produced commercially by sink and float concentration; however in 1956 the company had no immediate

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

plans to develop the deposit (Rowe, 1956). Crushing the spodumene to +6.4 mm - 12.8 mm (+1/4 inch - 1/2 inch) liberated the majority of that mineral (Rowe, 1954).

W. Ringsleben of the Metal Controller's Office in Ottawa visited the property with Dr. T.L. Tanton in 1942. Using an ultraviolet lamp, they found minor scheelite in three places (Cole, 1942). Sherritt Gordon exercised their option in 1942. The claims were assigned to E.L. Brown, General Manager of the company. The property has been idle since 1942, when it was leased as M-1927 (Spodumene) and M-1928 (Lithium) and assigned to Sherritt Gordon Mines, Limited. The leases were renewed in 1968.

Several airborne surveys were done in the area in 1948-1973:

Airborne Permit No.	Company/Year	Survey	Assessment File No.
1 & 2	Inco/1948 Canadian Nickel/1951	Aeromag	91614
19	Canadian Nickel/1957	AEM	91624
54	H.B.E.D./1965	helicopter EM & radiometric	91650
116	Falconbridge Nickel Mines Limited/1973	AEM & AMAG	91564

Sherritt Gordon applied for Explored Area leases for the two claims in 1976.

In 1979, the Spodumene (P 4360) claim which contains Dykes 1 and 2, was restaked as Fred (CB 10493), area 33 ha, by Jim Corman, Jamie Corman, Don Heibert and Terry Hiebert on behalf of Jim Corman. The claim took precedance over the Gore 1 (untagged) and the Lia 1 (P 3857E) claims that had also been staked in the area at the time.

That same year, the Lithium (P 4361) claim, area 17 ha, containing Dyke 3 was restaked as Sparky 1 (W 45441) by J.B. Kobar, W.B. Kobar, and Milton Roberts on behalf of J.B. Kobar.

Sampling and detailed geological mapping (Scale 1:1200) of the pegmatites was done by Cerny et al.(1981). Analyses of four samples of spodumene indicated an average Fe as Fe_2O_3 content of 1.178 wt% (range 0.96 - 1.40%); four samples of "late beryl" had an average content (in wt%) of 0.346% Li, 1.07% Na, 0.175% Cs; three samples of core muscovite averaged 0.11% Li, 0.255% Rb, 0.0067% Cs, 0.0022% Be (Cerny et al., 1981, p. 191).

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

Cangold Limited optioned the Sparky 1 claim from 1984 to 1986. In 1986, the Sparky 1 (W 45441) claim was assigned to W.B. Kobar.

A reserve estimate of 203 000 tonnes grading 1.2% Li_2O (to a depth of 45 m) was reported for Dyke 2 (Bannatyne, 1985).

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Manitoba Mines Branch:
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b Non-confidential Assessment Files; File Nos. 91564, 91614, 91624, 91650, 92182.
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MAP REFERENCES

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Map 2566 G, Herb Lake, (Aeromagnetic), Scale 1:63 360 - Manitoba Mines Branch and Geological Survey of Canada.

Map 36063G, Wekusko Lake, (Airborne gamma-ray spectrometry), Scale 1:250 000, Geological Survey of Canada and Province of Manitoba (1979).

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Map 1423A, Wekusko Lake, (Geology), Scale 1:250 000 - Accompanying Report by Bell (1978), Geological Survey of Canada.

Map 1, Geologic compilation of the Snow Lake-Flin Flon-Sherridon area, (Geology), Scale 1:253 440 - Accompanying Paper by Bailes (1971), Manitoba Mines Branch.

Map ER80-1-4, Wekusko Lake pegmatite field, (Geology), Scale 1:100 000 - Accompanying Report by Cerny et al. (1981), Manitoba Energy and Mines.

Claim Map Series, 63J/13 SE, Scale 1:31 680, circa 1976, 1979, 1981, Mining Recording, Manitoba Mines Branch.

Comp./Rev.		SMH	PA
By Date	02-68	06-76	06-88

PRODUCT Lithium	**N.T.S. AREA** 63J/13 SE	**REF.** LI 3

NAME OF PROPERTY:
Violet 8, 11, 18

OWNER OR OPERATOR AND ADDRESS
1988- H.L. Thompson
P.O. Box 70
Cranberry Portage, Manitoba
ROB OHO

OBJECT LOCATED: Centre of Violet 11 **MINING DIVISION** The Pas

Lat. 54° 51.01'	Long. 99° 42.72'	**UNCERTAINTY:** 500 m
Sec.	Tp. 67, 8	R. 15 WPM

DESCRIPTION OF DEPOSIT

Pale green, medium-grained spodumene occurs with white to red feldspar, albite, quartz, muscovite, tourmaline, and fluorite in pegmatite dykes which intrude (almost conformably along a dilational fracture) Precambrian greywacke and conglomerate. The main zone is 640 m (2100 ft) long and averages 7.6 m (25 ft) wide. It strikes 033° and dips vertically. It either divides or is offset at both ends (see Fig. 1). Another dyke is located about 610 m (2000 ft) south of the main dyke, striking 030° and dipping 80° E. It is approximately 25 m (82 ft) long and 1 to 3 m (3 to 10 ft) wide, pinching out to the south. It seems to outcrop again about 9 to 12 m (30 to 40 ft) further south.

Spodumene, intergrown with quartz and tourmaline, occurs throughout the pegmatite in crystals that are perpendicular to the dyke walls. Some spodumene crystals are bent and fractured (Ziehlke, 1977). According to Cerny et al.(1981), the pegmatite has a "ladder-like orientation of columnar (1-35 cm long) spodumene and K-feldspar plunging 10-25° at 320-340°..........sub perpendicular to the dyke contact". Some spodumene zones are truncated by mica- or feldspar-filled fractures which strike 025° and dip 75° E, and may be stained by red oxide. In the southern dyke, spodumene occurs in "clusters of coarse blades, up to 5 cm long, or as diversely oriented blades"; further south, light greenish spodumene blades, 12 to 18 mm long, also occur in clusters (Bannatyne, 1985). The dykes are unzoned though the main dyke contains a band of tourmaline and pink feldspar 0.6 m (2 ft) thick along parts of its outer walls.

Beryl (?) and fluorite were noted in drill logs (Non-confidential Assessment File No. 90099). Minor apatite and garnet were also reported (Cerny et al., 1981). Cerny (1987) reported contents of 1000 ppm Rb, 40 ppm Cs, and a K/Rb ratio of 116, for blocky K-feldspars.

Associated minerals or products of value
fluorite, beryl.

DESCRIPTION OF DEPOSIT cont'd

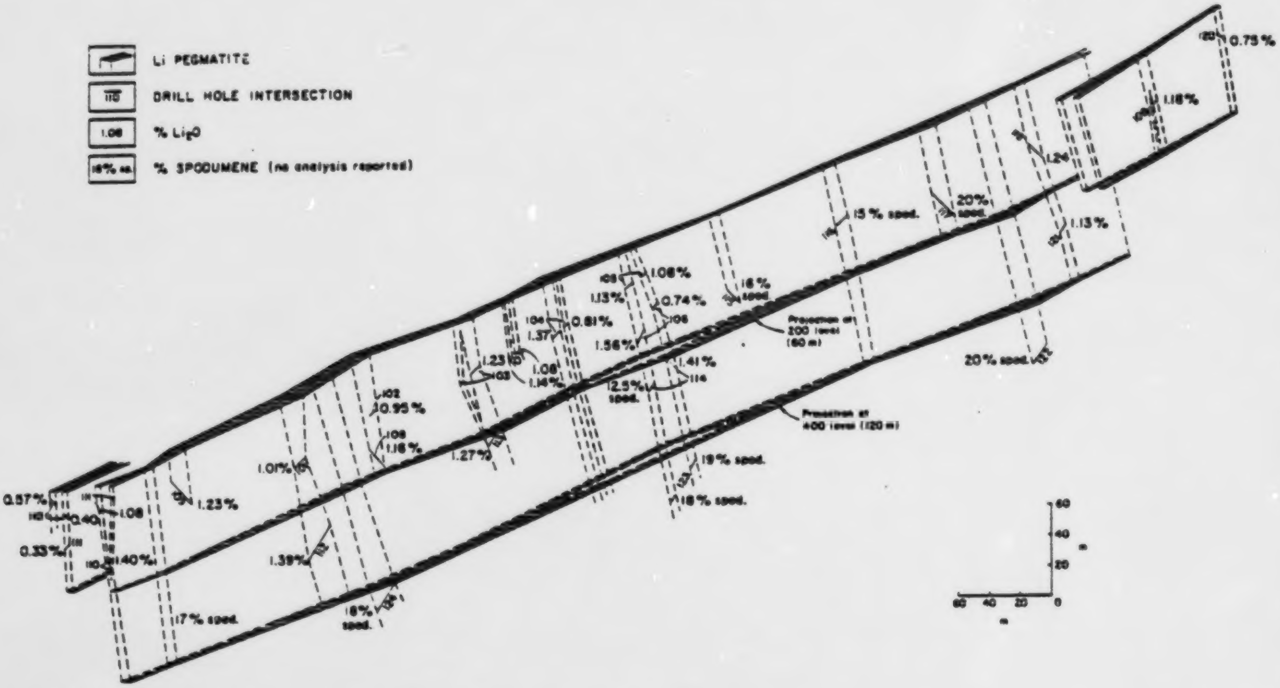

Figure 1: *Violet pegmatite: drilling results.* (source: Bannatyne, 1985:78).

HISTORY OF EXPLORATION AND DEVELOPMENT

The deposit lies on the east shore of the south end of Crowduck Bay of Wekusko Lake, approximately 1.3 km north of the narrows. The railway and Provincial Road 393 to Osborne Lake are 8.5 km northwest.

Violet 8, 11, and 18 (P 35510, 36484, 36491) were staked by E. Sander in 1955 and assigned to S.P. Moore shortly thereafter. Violet 8 covered the southern dyke, while Violet Nos. 11 and 18 covered the northern one. Combined Developments Limited acquired the property in 1955 and diamond drilled 2549 m (8362 ft) in 26 holes that winter. Previous surface samples yielded approximately 1.5% Li_2O (Manitoba Mines Branch, Corporation File, Combined Developments Limited). Assays from the drilling ranged up to 1.46% Li_2O across 3.0 m (10 ft) for a core length of 12 m (40 ft) (Non-confidential Assessment File No. 90099). Spodumene comprised up to 25% of some core sections.

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

The drilling outlined a zone containing 5 325 770 tonnes (5 869 000 tons), indicated and inferred, averaging 1.205% Li_2O to a depth of 305 m (1000 ft) (Northern Miner, May 3 and June 7, 1956). The company estimated that this breaks down to 15 510 tonnes/m (5210 tons/ft) of dip averaging 1.21% Li_2O. This zone was 549 m (1800 ft) long and was open at both ends (Northern Miner, March 15, 1956).

A 157 kg (347 lb) bulk sample from 37 m (120 ft) of trenching had been sent to Ottawa for testing. The tests indicated that beneficiation of the deposit by a flotation process would be possible (Northern Miner, June 7, 1956).

Canadian Scotia Limited acquired the assets of Combined Developments Limited in the autumn of 1956. Another drill program was completed late in 1956 (Bannatyne, 1985). The Violet claims were assigned to General Lithium Mining and Chemical Corp. Ltd. early the following year. Mulligan (1957b, p. 24) reported that according to Combined Developments, the deposit contains 2.99 million tonnes (3.3 million tons) (indicated reserves) grading 1.2% Li_2O. According to Bannatyne (1985, p. 77), "Tonnage estimates, based on drill results from 1955 to 1957, indicate 5 260 000 tonnes grading 1.2% Li_2O. The dyke has been drilled to a depth of 180 m". The Violet claims were cancelled in 1964.

In 1964 Violet 8 was restaked by G. Matthews as Gerry 1 (P 5888B). Violet 11 and 18 were restaked as Thompson 2 and 3 (P 7463, 4B) by H.L. Thompson that same year.

Gerry 1 was cancelled in 1965. It was restaked in 1969 as Thompson 9 (P 2374E) by G.F. Thompson. Trenching was reported on the Thompson claims.

Several airborne surveys were done in the area in 1948-1973:

Airborne Permit No.	Company/Year	Survey	Assessment File No.
1 & 2	Inco/1948 Canadian Nickel/1951	Aeromag	91614
19	Canadian Nickel/1957	AEM	91624
54	H.B.E.D./1965	Helicopter EM & radiometric	91650
116	Falconbridge Nickel Mines Limited/1973	AEM & AMAG	91564

In 1979, the Thompson 9 (P 2374E) claim was restaked under the 60.71 ha, Zag 4 (CB 10480) claim, which was held by Dave Zagozewski until 1981.

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

Sampling and detailed geological mapping (Scale 1:1200) of the deposit was done by Cerny et al.(1981, p. 155). The analysis of three samples of spodumene indicated an average Fe as Fe_2O_3 content of 1.237 wt% (range 1.23 - 1.25%); two samples of beryl averaged (in wt%) 0.407% Li, 0.10% Cs, 1.35% Na; four samples of core muscovite averaged 0.067% Li, 0.214% Rb, 0.003% Cs, 0.0019% Be (Cerny et al., 1981, p. 192).

In 1982, Hall Leslie Thompson staked the old Thompson 9 claim area as Thompson 7 (W 47378), area 16 ha. Southern portions of the former Violet 8 claim area fell under the 114 ha, Nor 51 (W 47996) claim that was held by Noranda Exploration Company Limited (NPL) from 1983 to 1986.

The former Violet 11, 18, and 8 claims are now held as Thompson 2, 3, and 7 (P 7463B, P 7464B, W 47378), respectively, by H.L. Thompson.

In 1988, it was reported that Starrex Mining Corporation Ltd. had acquired substantial lithium reserves in the Wekusko Lake area and were considering a commercial production of the deposit (Northern Miner, May 23, 1988) that according to Fred Heidman (pers. comm., 1988) is on the old Violet group of claims. The company which is 46% owned by Phoenix Canada Oil Company Limited (Financial Post, 1986, p. 479), hopes to make a production decision regarding the deposit by October 1990.

REFERENCES

Alcock, F.J., 1920, The Reed-Wekusko map-area, northern Manitoba; Geological Survey of Canada, Memoir No. 119, 47p.

Bailes, A.H., 1971, Preliminary compilation of the geology of the Snow Lake - Flin Flon - Sherridon area; Manitoba Department of Mines and Natural Resources, Mines Branch, Geological Paper 1/71, 27p.

Bannatyne, B.B., 1973, Pegmatite project; in Summary of Geological Fieldwork 1973; Manitoba Department of Mines, Resources and Environmental Management, Mines Branch, Geological Paper 2/73, p. 30, 33.

+Bannatyne, B.B., 1985, Industrial minerals in rare-element pegmatites of Manitoba; Manitoba Energy and Mines, Geological Services, Economic Geology Report ER84-1, p. 4, 73-75, 77-78.

Bell, C.K., 1978, Geology, Wekusko Lake map area, Manitoba; Geological Survey of Canada, Memoir No. 384, p. 74-75.

+Cerny, P., 1987, Petrogenesis of pegmatites in the Cat Lake - Winnipeg River and Wekusko Lake fields, Manitoba; in Centre for Precambrian Studies; University of Manitoba, Annual Report, 1987, p. 13.

+Cerny, P., Trueman, D.L., Ziehlke, D.V., Goad, B.E. and Paul, B.J., 1981, The Cat Lake - Winnipeg River and the Wekusko Lake pegmatite fields, Manitoba; Manitoba Department of Energy and Mines, Mineral Resources Division, Economic Geology Report ER80-1, p. 155, 172, 176, 185, 188, 190-193, 202.

REFERENCES cont'd

Financial Post, Survey of Mines and Energy Resources, 1986, p.479; Maclean-Hunter Limited.

Frarey, M.J., 1948, Crowduck Bay (Marginal Notes); Geological Survey of Canada, Paper 48-22.

Frarey, M.J., 1950, Crowduck Bay (Marginal Notes); Geological Survey of Canada, Map 987A.

Manitoba Mines Branch:
- a Corporation Files; +Combined Developments Limited.
- b Non-confidential Assessment Files; File Nos. +90099, 91564, 91614, 91624, 91650.

Mulligan, R., 1957a, Lithium in Canada - recent developments and geological features; Canadian Mining Journal, v. 78, No. 4, p. 125.

Mulligan, R., 1957b, Lithium deposits of Manitoba, Ontario, and Quebec 1956; Geological Survey of Canada, Paper 57-3, p. 24.

+Mulligan, R., 1965, Geology of Canadian lithium deposits; Geological Survey of Canada, Economic Geology Report No. 21, p. 82.

Northern Miner, The, May 23, 1988, "Starrex recovers mine investment", p. 21.

Phillips, K.A., 1978, Minerals of Manitoba, Volume 1: Non-metallic and pegmatitic; Manitoba Department of Mines, Resources and Environmental Management, Mineral Resources Division, MRD Educational Series 78/1, p. 75.

Quinn, H.A., 1957, Mineral occurrences between Chipewyan and Herb Lakes, Manitoba; The Precambrian, v. 30, No. 1, p. 31.

Russell, G.A., 1957, Structural studies of the Snow Lake - Herb Lake area; Manitoba Mines Branch, Publication 55-3, p. 29.

Sabina, A.P., 1972, Rocks and minerals for the collector, La Ronge-Creighton, Saskatchewan; Flin Flon-Thompson, Manitoba; Geological Survey of Canada, Paper 71-27, p. 60-61.

Wright, J.F., 1934, The Pas sheet, Manitoba and Saskatchewan (Marginal Notes); Geological survey of Canada.

+Ziehlke, D.V., 1977, Petrogenesis of pegmatites in the Herb Lake area; in Centre for Precambrian Studies; University of Manitoba, Annual Report, 1977, p. 25, 28-31.

MAP REFERENCES

*Map 63J/13, Herb Lake, (Topographic), Scale 1:50 000 - Mines and Technical Surveys, Canada.

MAP REFERENCES cont'd

Map 2566 G, Herb Lake, (Aeromagnetic), Scale 1:63 360 - Manitoba Mines Branch and Geological Survey of Canada.

Map 36063G, Wekusko Lake, (Airborne gamma-ray spectrometry), Scale 1:250 000, Geological Survey of Canada and Province of Manitoba (1979).

Map 1801, Reed and Wekusko Lakes region, (Geology), Scale 1:126 720 - Accompanying Memoir by Alcock (1920), Geological survey of Canada.

Map 268A, The Pas sheet, Manitoba and Saskatchewan, (Geology), Scale 1:506 880 - Accompanying Marginal Notes by Wright (1934), Geological Survey of Canada.

Map 48-22, Crowduck Bay, (Geology), Scale 1:31 680 - Accompanying Marginal Notes by Frarey (1948), Geological Survey of Canada.

Map 987A, Crowduck Bay, (Geology), Scale 1:63 360 - Accompanying Marginal Notes by Frarey (1950), Geological Survey of Canada.

Map 1423A, Wekusko Lake, (Geology), Scale 1:250 000 - Accompanying Report by Bell (1978), Geological Survey of Canada.

Map 1, Geologic compilation of the Snow Lake-Flin Flon-Sherridon area, (Geology), Scale 1:253 440 - Accompanying Paper by Bailes (1971), Manitoba Mines Branch.

Map ER80-1-4, Wekusko Lake pegmatite field, (Geology), Scale 1:100 000 - Accompanying Report by Cerny et al. (1981), Manitoba Energy and Mines.

#Claim Map Series, 63J/13 SE, Scale 1:31 680, circa 1964, Mining Recording, Manitoba Mines Branch.

REMARKS

1. Another spodumene-bearing dyke (22 x 10 m, exposed dimensions) containing up to 15% spodumene crystals (up to 30 cm long) near the centre, was discovered in a pebble metaconglomerate, "approximately 500 m at 045° from the northernmost trench in the Violet dyke" (Ziehlke, 1977, p. 28). It may be an extension of the Violet dyke.

Comp./Rev.		SMH	PA
By Date	03-73	06-76	06-88

MANITOBA ENERGY AND MINES **MINERAL INVENTORY FILE NO.** 501

PRODUCT Tin **N.T.S. AREA** 63J/13 SE **REF.** SN 1

NAME OF PROPERTY:
Glenn Group

OWNER OR OPERATOR AND ADDRESS
1988: Staked, pending recording

OBJECT LOCATED: Southwestern Stuart Lake **MINING DIVISION** The Pas

Lat. 54° 45.61' Long. 99° 44.02' **UNCERTAINTY:** 50 m

Sec. Tp. 66 R. 16WPM

DESCRIPTION OF DEPOSIT

Tin, gold, silver, nickel, and copper mineralization was reported in two Precambrian veins that are several feet (metres) wide (N. Mail; March 14, 1929 & other clippings in Manitoba Mines Branch, Unpublished Information File). A granitic intrusion into conglomerate and greywacke is shown on Map 987A in this area.

HISTORY OF EXPLORATION AND DEVELOPMENT

The occurrence is at the southwestern end of Stuart Lake, approximately 4 km east of Wekusko Lake. The trail to Hales Landing, branches from Provincial Road 391-392 about 18 km south of the deposit.

D.P. Glenn Nos. 1-6 were staked by various people in 1928, but were controlled by one of the stakers, D'Arcy MacDonald. The claims were assigned to the Stenen Prospecting Syndicate in 1928. A 24 m (80 ft) trench was dug on Glenn 2, and although no other work was reported on the group, newspaper clippings mention extensive trenching (Manitoba Mines Branch, Corporation File, Jack Nutt Mines Limited). The first assays yielded 1.78% tin, but later assays were much lower (N. Mail, June 22, 1929). Jack Nutt Mines Limited was interested in the property but apparently did not option it. The D.P. Glenn claims were cancelled in 1930.

Rex 2 and 3 (P 6944, 5) covered part of the deposit between 1944 and 1946. No work was reported on the Rex claims. The area reopened for staking around 1949.

Associated minerals or products of value
gold, silver, copper, nickel.

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

Several airborne surveys were done in the area in 1948-1973:

Airborne Permit No.	Company/Year	Survey	Assessment File No.
1 & 2	Inco/1948 Canadian Nickel/1951	Aeromag	91614
19	Canadian Nickel/1957	AEM	91624
54	H.B.E.D./1965	Helicopter EM & radiometric	91650
116	Falconbridge Nickel Mines Limited/1973	AEM & AMAG	91564

The area was restaked as Nor 53 (W 49027), area 256 ha, by Ross Colon for Noranda Exploration Company Limited (NPL) in 1983. The claim was cancelled in 1987. Nor 3 (P 7044E) is currently being recorded.

REFERENCES

Alcock, F.J., 1920, The Reed-Wekusko map-area, northern Manitoba; Geological Survey of Canada, Memoir No. 119, 47p.

Bailes, A.H., 1971, Preliminary compilation of the geology of the Snow Lake - Flin Flon - Sherridon area; Manitoba Department of Mines and Natural Resources, Mines Branch, Geological Paper 1/71, 27p.

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Cerny, P., Trueman, D.L., Ziehlke, D.V., Goad, B.E. and Paul, B.J., 1981, The Cat Lake - Winnipeg River and the Wekusko Lake pegmatite fields, Manitoba; Manitoba Department of Energy and Mines, Mineral Resources Division, Economic Geology Report ER80-1, 216p.

Frarey, M.J., 1948, Crowduck Bay (Marginal Notes); Geological Survey of Canada, Paper 48-22.

Frarey, M.J., 1950, Crowduck Bay (Marginal Notes); Geological Survey of Canada, Map 987A.

Manitoba Mines Branch:
a Corporation Files; Jack Nutt Mines Limited.
b Non-confidential Assessment Files; File Nos. 91564, 91614, 91624, 91650.
c Unpublished Information Files; 16, 63K & 12, 13, 63J.

REFERENCES cont'd

Wright, J.F., 1934, The Pas sheet, Manitoba and Saskatchewan (Marginal Notes); Geological survey of Canada.

MAP REFERENCES

#Map 63J/13, Herb Lake, (Topographic), Scale 1:50 000 - Mines and Technical Surveys, Canada.

Map 2566 G, Herb Lake, (Aeromagnetic), Scale 1:63 360 - Manitoba Mines Branch and Geological Survey of Canada.

Map 36063G, Wekusko Lake, (Airborne gamma-ray spectrometry), Scale 1:250 000, Geological Survey of Canada and Province of Manitoba (1979).

Map 1801, Reed and Wekusko Lakes region, (Geology), Scale 1:126 720 - Accompanying Memoir by Alcock (1920), Geological survey of Canada.

Map 268A, The Pas sheet, Manitoba and Saskatchewan, (Geology), Scale 1:506 880 - Accompanying Marginal Notes by Wright (1934), Geological Survey of Canada.

Map 48-22, Crowduck Bay, (Geology), Scale 1:31 680 - Accompanying Marginal Notes by Frarey (1948), Geological Survey of Canada.

Map 987A, Crowduck Bay, (Geology), Scale 1:63 360 - Accompanying Marginal Notes by Frarey (1950), Geological Survey of Canada.

Map 1423A, Wekusko Lake, (Geology), Scale 1:250 000 - Accompanying Report by Bell (1978), Geological Survey of Canada.

Map 1, Geologic compilation of the Snow Lake-Flin Flon-Sherridon area, (Geology), Scale 1:253 440 - Accompanying Paper by Bailes (1971), Manitoba Mines Branch.

Map ER80-1-4, Wekusko Lake pegmatite field, (Geology), Scale 1:100 000 - Accompanying Report by Cerny et al. (1981), Manitoba Energy and Mines.

Map 288, Wekusko Lake (Blueprint claim), Scale 1:31 680, circa 1928, Mining Recording, Manitoba Mines Branch.

Claim Map Series, 63J/13 SE, Scale 1:31 680, circa 1947, Mining Recording, Manitoba Mines Branch.

Comp./Rev.	SMH	PA
By Date	12-76	06-88

PRODUCT Tungsten **N.T.S. AREA** 63 K/16 NE **REF.** W 1

NAME OF PROPERTY:
Squall Creek (Julian)

OWNER OR OPERATOR AND ADDRESS
1988 - Snow Lake Mines Ltd.
P.O. Box 130
Snow Lake, Manitoba
R0B 1M0

OBJECT LOCATED Prospect **Mining Division** The Pas

Lat. 54° 53.8' Long. 100° 06.4' UNCERTAINTY: 50 m

Sec. Tp. 68 R. 18 WPM

DESCRIPTION OF DEPOSIT

The Precambrian country rock is characterized by hornblende-plagioclase gneiss, garnetiferous hornblende-biotite-plagioclase gneiss and garnetiferous biotite-plagioclase-quartz gneiss.

"Scheelite bearing veins occur in the east band of hornblende gneiss at a point about half a mile (0.8 km) north of Snow Lake. The veins have been traced on surface and underground for a length of about 150 feet (46 m)..... scheelite occurs in quartz veins.....(but it) does not occur in the wall rock. Picked samples are reported to assay 25% WO_3" (Little, 1959, p. 153).

As described in the Northern Miner (October 10, 1952), "the mineralized zone is.....about 10' (3 m) wide.....and 450' (137 m) in length. Another vein has been exposed 50' (15 m) west of the main one". Shallow drilling proved the mineralization to a depth of 70' (21 m). A little gold was found in the mineralized amphibolitic rocks near the quartz veins.

HISTORY OF EXPLORATION AND DEVELOPMENT

The deposit is exposed in some old pits at Squall Creek about 0.8 km north of the west end of Snow Lake.

The property was first recorded as the J.E.R. #8 (P 8555) and J.E.R. #9 (P 8556) by Jack McKay on May 9, 1945. A series of transfers then took place. First to Jack Nutt on May 10, 1945, then his full interest was divided between A.G. Derby and E. Stern on July 11, 1945. Finally all interests passed to the Leedoro Snow Lake Mines Limited on October 30, 1945. A magnetic and a geological survey was carried out in 1946 (Non-confidential Assessment File No. 90040). The claims were cancelled on May 9, 1947.

Gaspard Richard recorded the Julian 1 and 2 claims (P 19716, 19717) on September 20, 1948. John Nutt received control of the claims on June 30, 1949. While stripping and trenching along a shear zone in search of gold veins, he discovered a quartz vein that contained much scheelite.

Associated minerals or products of value
gold.

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

A 45 kg (100 lb) bulk sample shipped to Ottawa assayed 25% WO_3; concentrates containing 71.1% tungsten oxide were obtained. A sample sent to England for testing returned 30% WO_3. In 1950 he reported a discovery of three high grade lenses. There is also a low grade zone 1.8 m (6 ft) wide that grades 3 to 5% WO_3. Mr. Nutt bagged 954 kg (2103 lbs) of ore that averaged 32.68% WO_3 and sent it to an American company. Work included an open cut 18 x 4.6 x 2 m (60 x 15 x 7 ft) deep and 21 short drill holes.

All interests were subsequently transferred to Leedoro Snow Lake Mines Limited. An adit of 32 m (105 ft) was opened on the property and 122 m (400 ft) of drifting was done. "From the north drift, a stope was taken through to surface, a distance up the vein of about 50 feet (15 m)" Russell, 1957).

Exploration of the property by Northern Tungsten Ltd. under the terms of an agreement with Leedoro got underway in 1951. The company was reorganized into Northern Tungsten Limited in 1952. Eleven short diamond drill holes totalling 376 m (1233 ft) were drilled into the hill. Fifteen holes, totalling 1285 m (4217 ft) were reported to have been drilled on the Julian No. 2 claim in 1952 (Non-confidential Assessment File No. 91465). The company estimated 6532 kg (14 400 lbs) of WO_3 concentrates on hand averaging 20-40% WO_3. A 10 tonne per day mill which was bought from Wekusko Gold Mines, was installed. Finally the 20-claim property (Jean and Julian claims) was transferred to Northern Tungsten Limited on March 30, 1954. An estimated 4540 tonnes (5000 tons) at 1% WO_3 was reported in the adit area (Financial Post Survey of Mines, 1955, p. 139).

The project was abandoned due to the low grade of material which was mined and due to an inadequate mill flow sheet. The use of Wilfley tables resulted in concentrates that were contaminated with sulphides (Russell, 1957). The mill reportedly closed in 1952. Northern Tungsten Limited ceased operations in 1964.

Canadian Nickel Company Limited did an aeromagnetic survey over the area in 1948-1951, and an airborne electromagnetic survey in 1957 (Non-confidential Assessment File Nos. 91614, 91624). Hudson Bay Exploration and Development Company Limited (H.B.E.D.) did an airborne electromagnetic and radiometric survey in 1961 under Airborne Permit No. 33 (Non-confidential Assessment File No. 91628).

The Julian claims were cancelled in 1976.

CB 7247 comprising 32.4 ha was staked by W. Bruce Dunlop (assisted by P. Dunlop) in 1977 and assigned to H.B.E.D. in 1978. The claim reverted back to W. Bruce Dunlop in 1981, but was cancelled the following year.

JackNutt (W 46689) comprising 16 ha was staked by P. Dunlop (assisted by W. Heidman) in 1983. The area was examined by the Manitoba Government in 1984. In 1987, the claim was transferred to Snow Lake Mines Ltd. (a subsidiary of Silver Hart Mines Ltd.).

HISTORY OF PRODUCTION

1949-1950:	2.7 tonnes (3 tons) of tungsten hand-cobbed and bagged. 0.9 tonnes (1 ton) of this was sold to an American company.
1952:	5.4 tonnes (6 tons) of concentrate.

REFERENCES

Alcock, F.J., 1920, The Reed-Wekusko map area, northern Manitoba; Geological Survey of Canada, Memoir No. 119, 47p.

Bell, C.K., 1978, Geology, Wekusko Lake map area, Manitoba; Geological Survey of Canada, Memoir No. 384, p. 74.

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Gonzales, A. and Fedikow, M.A.F., 1984, Mineral deposit studies - Snow Lake area; Manitoba Energy and Mines, Mineral Resources, Report of Field Activities, 1984, p. 49-50.

+Harrison, J.M., 1949, Geology and mineral deposits of File-Tramping lakes area, Manitoba; Geological Survey of Canada, Memoir No. 250, p. 75.

Hosain, I.T., 1978, Summary and evaluation of the geophysical data from the open assessment files of the Flin Flon-Snow Lake greenstone belt (northern half of NTS sheet 63K); Manitoba Department of Mines, Resources & Environmental Management, Mineral Resources Division, Open File Report 78/2, p. 28.

+Little, H.W., 1959, Tungsten deposits of Canada; Geological Survey of Canada, Economic Geology Series No. 17, p. 152-154.

Manitoba Mines Branch:
a Non-confidential Assessment Files; File Nos. 90040, +91465, 91614, 91624, 91628.
b Corporation Files; +Northern Tungsten Limited; +Leedoro Snow Lake Mines Limited.
c Annual Report on Mines and Minerals; 26th - p. 74.

Mineral Policy Sector; Corporation Files: "Leedoro Snow Lake Mines Limited"; "Northern Tungsten Limited".

+++Quinn, H.A., 1957, Mineral occurrences between Chipewyan and Herb lakes, Manitoba; The Precambrian, v. 30, No. 1, p. 31.

Russell, G.A., 1957, Structural studies of the Snow Lake-Herb Lake arca, Herb Lake Mining Division, Manitoba; Province of Manitoba, Department of Mines and Natural Resources, Mines Branch, Publication 55-3, p. 26-27.

NAME OF PROPERTY		**FILE NO.** 827
Squall Creek (Julian)	**N.T.S. AREA** 63 K/16 NE	**REF.** W 1

MAP REFERENCES

Map 63K/16, File Lake, (Topographic), Scale 1:50 000, Surveys and Mapping Branch, Ottawa.

Map 8455G, File Lake, (Aeromagnetic), Scale 1:63 360, Manitoba Mines Branch and Geological Survey of Canada.

Map 36163G, Cormorant Lake, (Airborne Gamma Ray Spectrometry), Scale 1:250 000, Province of Manitoba, Province of Saskatchewan and Geological Survey of Canada (1978).

Map 1801, Reed-Wekusko lakes region, (Geology), Scale 1:126 720 - Accompanying Memoir by Alcock (1920), Geological Survey of Canada.

#Map 929A, File Lake, (Geology), Scale 1:63 360 - Accompanying Publication by Harrison (1949), Geological Survey of Canada.

Map 55-3, Snow Lake-Herb Lake area, (Geology), Scale 1:31 680 - Accompanying Publication by Russell (1957), Manitoba Mines Branch.

Map, Geology of the Snow Lake area, Manitoba, (Geology), Scale 1:50 000 - Accompanying Paper by Froese and Moore (1980), Geological Survey of Canada.

Claim Map Series 63K/16 NE, Scale 1:31 680, circa 1975, Mining Recording, Manitoba Mines Branch.

REMARKS

1. The deposit is located along the edge of a magnetic "high" as shown by a symbol on Map 929A.
2. Occurrences were also reported 3.2 km (2 mi) north and 1.6 km (1 mi) south of the property (Manitoba Mines Branch, Corporation File, Northern Tungsten Limited).

Comp./Rev.	RM	PA
By Date	09-75	07-88

MANITOBA ENERGY AND MINES **MINERAL INVENTORY FILE NO. 507**

PRODUCT Lithium **N.T.S. AREA** 63J/14 NW **REF.** LI 1

NAME OF PROPERTY:
Axe Spodumene

OWNER OR OPERATOR AND ADDRESS
1988 - Open

OBJECT LOCATED DDH 3B (Axe 30 claim) **Mining Division** The Pas

Lat. 54° 54.37' Long. 99° 22.60' **UNCERTAINTY:** 100 m

Sec. Tp. 68 R. 13 WPM

DESCRIPTION OF DEPOSIT

Spodumene-bearing pegmatite intrudes Aphebian basalt, chlorite schist and gneiss. Spodumene and minor chalcopyrite were noted in diamond drill logs (Non-confidential Assessment File No. 90611).

HISTORY OF EXPLORATION AND DEVELOPMENT

Spodumene occurs on both sides of the Grass River 3.5 to 6.5 km southwest of Saw Lake, and approximately 24 km east-southeast of the railway and Provincial Road 393 at Osborne Lake.

Canadian Nickel Company Limited did an aeromagnetic survey in the area in 1948-1951 and an airborne EM survey in 1957 (Non-confidential Assessment File Nos. 91614, 91624).

Axe Nos. 30, 69-71, 94, and 100 (P 65221, 60-2, 85, 91) were staked by various people in 1957. Jay-Kay Exploration Syndicate diamond drilled at least one hole containing spodumene on each of these claims in 1959. Spodumene was found in pegmatitic sections 0.6 to 1.5 m (2 to 5 ft) long (core length) (Non-confidential Assessment File No. 90611). The claims were cancelled in 1961.

The deposit was partially covered by Kus Nos. 842-844, 872 (P 5581D-83D, 5688D) staked in 1968 by A. Carson and M. MacDonald, respectively. These claims were assigned to Hudson Bay Exploration and Development Company Limited in 1969. A 21-hole 1810 m diamond drill program and a horizontal loop EM survey was carried out over the Kus group of claims in 1970. Pegmatite intersections varying from 0.5 m - 39 m in length were reported in 12 drill holes (Non-confidential Assessment File No. 91389). The claims were cancelled in 1970.

In 1976, the Manitoba Government carried out a geological survey of the area.

Associated minerals or products of value

REFERENCES

Bailes, A.H., 1976, Saw Lake area (Grass River project); Manitoba Department of Mines, Resources and Environmental Management, Mineral Resources Division, Geological Survey, Report of Field Activities, 1976, p. 45-50.

Bailes, A.H., 1985, Geology of the Saw Lake area; Manitoba Energy and Mines, Geological Services, Geological Report GR83-2, 47p.

Bell, C.K., 1978, Geology, Wekusko Lake map area, Manitoba; Geological Survey of Canada, Memoir No. 384, 84p.

Manitoba Mines Branch:
a Non-confidential Assessment Files; File Nos. 90608, +90611, 90612, 91389, 91614, 91624.

MAP REFERENCES

*Map 63J/14, Saw Lake, (Topographic), Scale 1:50 000, Surveys and Mapping Branch, Ottawa.

Map 2574G, Saw Lake, (Aeromagnetic), Scale 1:63 360, Manitoba Mines Branch and Geological Survey of Canada.

Map 36063G, Wekusko Lake, (Airborne Gamma Ray Spectrometry), Scale 1:250 000, Province of Manitoba and Geological Survey of Canada (1978).

Map 268A, The Pas sheet, (Geology), Scale 1:506 880, by J.F. Wright, Geological Survey of Canada (1934).

Map 1976 B-1, Saw Lake, (Geology), Scale 1:50 000, by A.H. Bailes and J. Malyon, Manitoba Mineral Resources Division.

Map 1432A, Wekusko Lake, (Geology), Scale 1:250 000 - Accompanying Memoir by Bell (1978), Geological Survey of Canada.

Map GR83-2-1, Saw Lake, (Geology), Scale 1:50 000 - Accompanying Report by Bailes (1985), Manitoba Energy and Mines.

#Map, Sketch of DDH 3B, (Drill Plan), Scale 1:4800; in Non-confidential Assessment File No. 90611, Manitoba Mines Branch.

Claim Map Series 63J/14 NW, Scale 1:31 680, circa 1962, Mining Recording, Manitoba Mines Branch.

Comp./Rev.	SMH	PA
By Date	11-76	07-88

MANITOBA ENERGY AND MINES **MINERAL INVENTORY FILE NO. 220**

PRODUCT Lithium **N.T.S. AREA** 52L/11 SW **REF.** LI 1

NAME OF PROPERTY:
Ben Group
(Ben No. 5, 8,
Rob No. 5,
Ann No. 2 Fr.)

OWNER OR OPERATOR AND ADDRESS
1988 - Open

OBJECT LOCATED: Centre of Ben No. 5 **MINING DIVISION** Winnipeg

Lat. 50° 37.4' Long. 95° 23.2' UNCERTAINTY: 500 m

Sec. Tp. 19 R. 15 EPM

DESCRIPTION OF DEPOSIT

The deposits consist of spodumene in pegmatite dykes which intrude granite of Archean age.

HISTORY OF EXPLORATION AND DEVELOPMENT

The deposits are located approximately 1.6 to 3.2 km north and 3.2 km east of Cat Lake and Provincial Road No. 314. There are four separate spodumene-bearing pegmatite dykes in an 8 km^2 (5 sq mi) area west of and including Ben No. 5.

Each of these deposits have only been staked once between 1930 and 1973:

Year	Claim Name	Claim Number	Staker
1955	Ben No. 5, 8	W23185, 8	Alex Orvis
1955	Ann No. 2 Fr.	W23211	Gordon Orvis
1955	Rob No. 5	W23194	Alex Orvis

These claims were assigned to A.L. Johnston in 1955. A total of 400 m of drilling in 39 holes was done on the Wall, Ann, Nib, Ben, Rob and Pat Groups. All these holes were drilled through pegmatite and granite. Spodumene was found at shallow depths in 6 holes on the Ben No. 5, 8, Ann No. 2 Fr., and Rob No. 5 claims (Non-confidential Assessment File No. 91309). Trenches, numbered A to W, were dug at one side of the drill holes. The Ben Group, Rob No. 5, Ann No. 2 Fr. were cancelled in 1957.

Associated minerals or products of value

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

Several airborne surveys were done in the area in 1959-1971:

Airborne Permit (AP)	Year	Company	Survey(System)	Assessment File No.
AP26	1959	Canadian Nickel Company Limited	Airborne EM (INCO dual frequency)	90008
AP82	1969	Keevil Mining Group Limited	Radiometric	91677
AP93	1971	Hudson Bay Exploration and Development Company Limited	Helicopter EM and radiometric	91686

REFERENCES

Cerny, P., Trueman, D.L., Ziehlke, D.V., Goad, B.E. and Paul, B.J., 1981, The Cat Lake-Winnipeg River and the Wekusko Lake pegmatite fields, Manitoba; Manitoba Department of Energy and Mines, Mineral Resources Division, Economic Geology Report ER80-1, 216p.

Manitoba Mines Branch:
a Non-confidential Assessment Files; File Nos. 90008, 91309, 91677, 91686.

Springer, G.D., 1950, Mineral deposits of the Cat Lake-Winnipeg River area; Manitoba Mines Branch, Publication 49-7, 14p.

MAP REFERENCES

*Map 52L/11, West, Flintstone Lake, (Topographic), Scale 1:50 000 - Mines and Technical Surveys, Canada.

Map 4047 G, Flintstone Lake, (Aeromagnetic), Scale 1:63 360 - Manitoba Mines Branch and Geological Survey of Canada.

Map 37-2, Euclid and Cat Lake area, (Geology), Scale 1:31 680, by F.D. Shepherd, Manitoba Mines Branch (1942).

Map 49-7, Cat Lake-Winnipeg River area, (Geology), Scale 1:63 360 - Accompanying Report by Springer (1950), Manitoba Mines Branch.

Preliminary Map 1972 F-1, Geological compilation map of the Bird River area, (Geology), Scale 1:50 000, by D.L. Trueman, Manitoba Mines Branch.

Preliminary Map 1978 F-2, Pointe du Bois (West part), (Geology), Scale 1:250 000, by D.A. Janes, Manitoba Mines Branch.

MAP REFERENCES cont'd

Map ER80-1-1, Cat Lake-Winnipeg River pegmatite field, (Geology), Scale 1:100 000 - Accompanying Report by Cerny et al.(1981), Manitoba Mineral Resources Division.

#Claim Map Series SW 11, 52L, Scale 1:31 680, circa 1957, Mining Recording, Manitoba Mines Branch.

Comp./Rev.	CC	PA
By Date	11-73	05-88

MANITOBA ENERGY AND MINES **MINERAL INVENTORY FILE NO. 221**

PRODUCT Lithium **N.T.S. AREA** 52L/11 SW **REF.** LI 2

NAME OF PROPERTY:
Irgon M.C.

OWNER OR OPERATOR AND ADDRESS
1988-The Lithium Corporation of
Canada, Limited
Suite 500
67 Richmond St. W.
Toronto, Ontario
M5M 1Z5

OBJECT LOCATED: Centre of Claim **MINING DIVISION** Winnipeg

Lat. 50° 36.7'	Long. 95° 25.9'	UNCERTAINTY: 500 m
Sec.	Tp. 19	R. 15 EPM

DESCRIPTION OF DEPOSIT

The deposit is of Archean age and occurs in the metavolcanics of the Rice Lake Group. The dyke is well exposed on a glaciated surface and strikes N80°W with a dip at 87°S. It has a total exposed length of 442 m (1450 ft) with widths varying from 3 to 18 m (10 to 60 ft) and averaging 7 m (24 ft). Near the centre of its widest part "the dyke is composed of large microcline crystals, from 6 inches to 2 feet (39 cm to 61 cm) along their edges, lying in a finer grained groundmass of quartz and spodumene" (Stockwell, 1932). Pure white and mauve crystals of spodumene are known to occur (Bannatyne, 1985).

The dyke is unzoned, but has an irregular internal structure, which is composed of alternating bands, or lenses, of a quartz-spodumene mixture and a coarse, granitic rock. The coarse, granitic rock is composed of a mixture of albite, microcline, muscovite, and quartz with accessory garnet and apatite, and is estimated to constitute over half of the dyke material.

An occurrence of green beryl in association with black tourmaline was reported in a fracture filling in the dyke (Cerny et al., 1981, p. 95). Native bismuth and a metal "probably tantalite" was reported by DeLury (1927). Occurrences of tantalian rutile, titanium columbite (Cerny et al., 1981), bityite and (Ta, Nb)-bearing titanite (Groat et al., 1985) were also reported.

HISTORY OF EXPLORATION AND DEVELOPMENT

The Irgon M.C. is located 518 m north of Cat Lake and is about 80.5 km by gravel road north of Lac du Bonnet.

The Irgon M.C. was staked by Peter Osis in 1926, and optioned to Fritz Zeemel. In 1927, the 3 year-option period was extended to 13 years. Zeemel also signed option agreements with Carl E. Austin and George F. Briggs. Several pits and trenches were excavated in 1926-1934. The claim was leased (M-871) in 1937, surveyed at 19.95 ha (49.31 ac), and assigned to The Lithium Corporation of Canada, Limited in 1938.

Associated minerals or products of value
beryl, bismuth, tantalum columbium, titanium.

MINERAL INVENTORY FILE 22

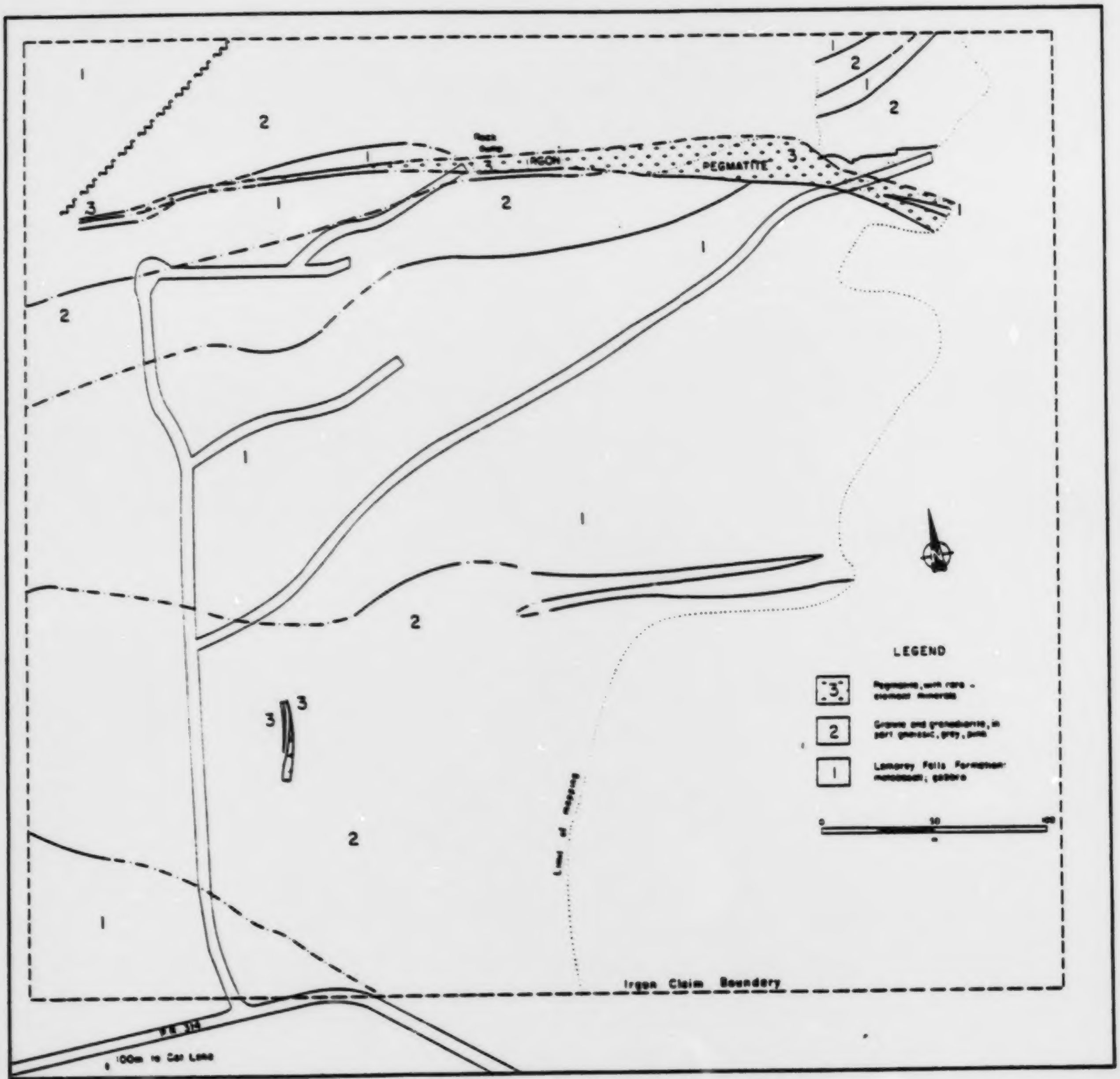
1
2
Rock dump
3
IRGON
PEGMATITE
3
2
1
2
1
1
2
1
1
2
1
3
3
2
Limit of mapping
2
1
Irgon Claim Boundary
PR 314
100m to Cat Lake
LEGEND
3
Pegmatite, with rare-element minerals
2
Granite and granodiorite, in part gneissic, grey, pink
1
Lamprey Falls Formation: metabasalt; gabbro
0
50
100
m

Figure 1 : Plan of Irgon pegmatite, and geology of Irgon claim. (source: Bannatyne, 1985: 62).

524/11 412

HISTORY OF EXPLORATION AND DEVELOPMENT

The Lithium Corporation of Canada, Limited which incorporated in Manitoba in 1934, was being financed by Perserverance Mining and Development Company, Limited (Inc. 1935, Ontario) which held a 20% interest, and optioned a further 60% interest, in the company.

The eastern portion of the deposit was sampled over a length of about 229 m (750 ft) for analyses at the Department of Mines, Ottawa. The results indicated contents of 40-53% spodumene for samples, with 7.44% Li_2O for pure spodumene. Indicated ore reserves varied from 45 370 tonnes (50 000 tons) to over 68 060 tonnes (75 000 tons) for each 31 m (100 ft) of depth, in old reports.

Around 1941, The Lithium Corporation of Canada, Limited carried out negotiations with the Minister of Public Works for a road to the property.

Surface lease M-92 was issued in 1955 and is still in force. A substantial amount of work was done on the claim. In 1955-1956, a power line and road were extended to the property, and a water-pumping station and mining plant were installed. A shaft was started late in 1956.

Some 1829 m (6000 ft) of diamond drilling indicated that down to a depth of 183 m (600 ft), the indicated reserves were 1 092 105 tonnes (1 203 500 tons) of ore grading 1.51% Li_2O (The Lithium Corporation of Canada, Limited, Report to Shareholders, 1956; Northern Miner, December 14, 1967). A three-compartment shaft was sunk to a depth of 74 m (241 ft) with six cross cuts and 366 m (1200 ft) of drift on the 61 m (200 ft) level. The work "developed the ore zone along a length of 900 ft (274 m) and an average width of 11.5 ft (3.5 m), thus indicating 1025 tons (930 tonnes) per vertical foot (metre) grading 1.45% Li_2O" (The Lithium Corporation of Canada, Limited, Report to Shareholders, 1957.) The work was suspended in 1957, awaiting a more favourable market for lithium oxides.

The Lithium Corporation of Canada, Limited was being financed by Mogul Mining Corporation Limited (Inc. 1954; formerly Mogul Gold Mines Limited, later Consolidated Mogul Mines Limited in 1958, Mogul Mines Limited in 1967, International Mogul Mines Limited in 1968).

The 21 year lease (M-871) was renewed in 1958. The next year, an airborne EM survey was done in the area by Canadian Nickel Company Limited under Airborne Permit No. 26 (Non-confidential Assessment File No. 90008). In 1960, Keevil Mining Group Limited showed an interest in the property. It was also reported that an agreement was made with Basic Geophysical Research and Exploration and Consolidated Mogul Mines to develop the property (Northern Miner, May 18, 1961). However, the mining plant was demolished and the mine site was cleared completely in 1963 by Tribag Mining Company of Sault Ste Marie; the shaft was covered with a concrete slab.

Keevil Mining Group Limited flew a radiometric survey in the area in 1969 under Airborne Permit No. 82 (Non-confidential Assessment File No. 91677); Hudson Bay Exploration and Development Company Limited did a helicopter EM and

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

radiometric survey in 1971 under Airborne Permit No. 93 (Non-confidential Assessment File No. 91686). In 1975, Lease M-871 was converted to ten-year Explored Area Lease No. 7, area 20 ha.

The area was examined by Cerny et al.(1981) during a pegmatite evaluation study of the Cat Lake area. A partial chemical analysis of a sample of spodumene, indicated contents (in wt%) of 7.06% Li_2O, 1.36% Fe_2O_3 (total Fe as Fe_2O_3) and 0.30% Na_2O (Cerny et al., 1981, p. 104). Samples of tantalian rutile, indicated contents (in wt%) of up to 40.6% Ta_2O_5, 47.4% TiO_2, 11.8% FeO in electron-microprobe analyses; a titanium columbite sample showed 48.2% Ta_2O_5, 32.9% Nb_2O_5, 8.8% FeO (Cerny, et al., 1981, p. 117, 121). Similar results were obtained for a sample of titanium ferrocolumbite.

In 1981, Conwest Exploration Co., Ltd. obtained a major controlling interest in International Mogul Mines Limited. The next year, it was reported that The Lithium Corporation of Canada, Limited was being revived by a group of Ontario businessmen. Some of the shareholders in the company include: J.L. Bitove, Bree Investments, R.A. Schiralli in 1980-1984; J.B. Investments Inc. and R.A. Schiralli in 1985-1986.

REFERENCES

Bannatyne, B.B., 1972, Pegmatite project; in Summary of Geological Fieldwork 1972; Manitoba Department of Mines, Resources and Environmental Management, Mines Branch, Geological Paper 3/72, p. 50-53.

Bannatyne, B.B., 1985, Industrial minerals in rare-element pegmatites of Manitoba; Manitoba Energy and Mines, Geological Services, Economic Geology Report ER84-1, p. 61-63.

Cerny, P., 1987, Petrogenesis of pegmatites in the Cat Lake-Winnipeg River and Wekusko Lake fields, Manitoba; in Centre for Precambrian Studies; University of Manitoba, Annual Report 1987, p. 13.

Cerny, P. and Bristol, N.A., 1972, New mineral occurrences in pegmatites of southeastern Manitoba; The Canadian Mineralogist, v. 11, Part 2, p. 562.

Cerny, P., Trueman, D.L., Ziehlke, D.V., Goad, B.E. and Paul, B.J., 1981, The Cat Lake-Winnipeg River and the Wekusko Lake pegmatite fields, Manitoba; Manitoba Department of Energy and Mines, Mineral Resources Division, Economic Geology Report ER80-1, p. 93-95, 97, 104-105, 109, 117, 121, 152.

Cerny, P. and Turnock, A.C., 1971, Pegmatites of southeastern Manitoba; in Geoscience Studies in Manitoba, ed. A.C. Turnock; Geological Association of Canada, Special Paper No. 9, p. 119-127.

Davies, J.F., 1956, Manitoba lithium deposits (Cat Lake-Winnipeg River area); Canadian Mining Journal, v. 77, No. 4, p. 78-79.

REFERENCES cont'd

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DeLury, J.S., 1927, The mineral resources of southeastern Manitoba, Rice Lake district, Oiseau River district and Boundary district; Industrial Development Board of Manitoba, p. 42-43.

Financial Post Survey of Mines, 1980-1986; Maclean-Hunter Publishing Company Limited.

Groat, L.A., Carter, R.T., Hawthorne, F.C. and Ercit, T.S., 1985, Tantalian niobian titanite from the Irgon claim, southeastern Manitoba; The Canadian Mineralogist, v. 23, Part 4, p. 569-571.

Manitoba Mines Branch:
- a Non-confidential Assessment Files; File Nos. 90008, 91677, 91686.
- b Unpublished Information Files; 52L/11.
- c Corporation Files; The Lithium Corporation of Canada, Limited.
- d Mining Engineering Files; Lithium Corporation of Canada, Limited.

Mineral Development Sector, Ottawa; Corporation Files: The Lithium Corporation of Canada, Limited.

Mines Branch, Ottawa; Investigations in Mine Dressing and Metallurgy; No. 2321, No. 22, 1947 - Pael. Flotation Tests; No. 2526, March 7, 1949 - Decrepitation Tests.

Mulligan, R., 1957, Lithium deposits of Manitoba, Ontario, and Quebec 1956; Geological Survey of Canada, Paper 57-3, p. 20.

Mulligan, R., 1965, Geology of Canadian lithium deposits; Geological Survey of Canada, Economic Geology Report No. 21, p. 68-72, 112-113.

Phillips, K.A., 1978, Minerals of Manitoba, Volume 1: Non-metallic and pegmatitic; Manitoba Department of Mines, Resources and Environmental Management, Mineral Resources Division, MRD Educational Series 78/1, p. 75.

Rowe, R.B., 1956, Lithium deposits of Manitoba; Geological Survey of Canada, Paper 55-26, p. 6-7.

Springer, G.D., 1950, Mineral deposits of the Cat Lake-Winnipeg River area; Manitoba Mines Branch, Publication 49-7, p. 9.

Stockwell, C.H., 1932, Lithium deposits; in Geology and Mineral Deposits of a Part of Southeastern Manitoba, by J.F. Wright; Geological Survey of Canada, Memoir No. 169, p. 124-125.

Winnipeg Free Press, 1982, May 27, "Lithium Mining Company to be revived after 20 years".

MAP REFERENCES

*Map 52L/11, West, Flintstone Lake, (Topographic), Scale 1:50 000 - Mines and Technical Surveys, Canada.

Map 4047 G, Flintstone Lake, (Aeromagnetic), Scale 1:63 360 - Manitoba Mines Branch and Geological Survey of Canada.

Map 37-2, Euclid and Cat Lake area, (Geology), Scale 1:31 680, by F.D. Shepherd, Manitoba Mines Branch (1942).

Map 49-7, Cat Lake-Winnipeg River area, (Geology), Scale 1:63 360 - Accompanying Report by Springer (1950), Manitoba Mines Branch.

Preliminary Map 1972 F-1, Geological compilation map of the Bird River area, (Geology), Scale 1:50 000, by D.L. Trueman, Manitoba Mines Branch.

Preliminary Map 1978 F-2, Pointe du Bois (West part), (Geology), Scale 1:250 000, by D.A. Janes, Manitoba Mines Branch.

Map ER80-1-1, Cat Lake-Winnipeg River pegmatite field, (Geology), Scale 1:100 000 - Accompanying Report by Cerny et al.(1981), Manitoba Mineral Resources Division.

#Claim Map Series SW 11, 52L, Scale 1:31 680, circa 1974, Mining Recording, Manitoba Mines Branch.

REMARKS

1. Several small pegmatites, containing small amounts of lithium and beryllium, occur just north of the east end of Cat Lake and near the southeast end of the lake.
2. Beryl and minor pseudo-ixiolite have been noted in "small reddish (ptygmatitic) pegmatites" that are found on the Irgon claims (Cerny and Turnock, 1971).

Comp./Rev.		GGS	PA
By Date	02-68	11-73	05-88

MANITOBA ENERGY AND MINES **MINERAL INVENTORY FILE NO. 222**

PRODUCT Lithium	**N.T.S. AREA** 52L/11 SW	**REF.** LI 3

NAME OF PROPERTY:
F.D. No. 5

OWNER OR OPERATOR AND ADDRESS
1988-Tantalum Mining Corporation
of Canada Limited
Box 2000
Lac du Bonnet, Manitoba
ROE 1A0

OBJECT LOCATED: Centre of F.D. No. 5 **MINING DIVISION** Winnipeg

Lat. 50° 37'	Long. 95° 27'	UNCERTAINTY: 500 m
Sec.	Tp. 19	R. 15 EPM

DESCRIPTION OF DEPOSIT

The deposit is Archean in age and occurs in the metavolcanics of the Rice Lake Group. The lithium-bearing pegmatites occur chiefly in the metavolcanics close to their contacts with large granitic bodies (Mulligan, 1965). The main outcrop is dome-shaped and about 27 m x 14 m (90 ft x 45 ft) in plan. Two smaller outcrops are located approximately 46 m (150 ft) south. The dome-shaped outcrop is composed of "fine to medium-grained quartz-spodumene -microcline-plagioclase-biotite pegmatite that contains a few fine-grained beryl crystals, and a lens of medium-grained quartz-spodumene-microcline pegmatite about 25' (7.6 m) in length and 4' (1 m) wide" (Rowe, 1956). Apple-green spodumene crystals up to 51 mm (2") long (Springer, 1950) and white beryl crystals up to 25 mm (1") across (Phillips, 1978) were noted. The smaller outcrops to the south are very coarse-grained microcline crystals in a groundmass of medium-grained quartz and spodumene.

HISTORY OF EXPLORATION AND DEVELOPMENT

The F.D. No. 5 (W11081) is located near the north shore of Cat Lake, and just east of the Eagle group of claims (52L/11 CU 1).

The F.D. No. 5 was first staked by Robert Donner in 1942 and the next year assigned to R.M. Fitzsimons. In 1945 the claim was assigned to G.H. Page and Heilding Johnson. In 1947 they assigned the claim to Mining Developments Ltd. (NPL) which changed its name to Northern Chemicals Ltd. in 1948. Some surface work and 128 m (421 ft) of diamond drilling were done by Northern Chemicals before they assigned the claim to The Lithium Corporation of America, Inc. in 1949. The Lithium Corporation of America, Inc. immediately took the claim to lease (M-2696) and it was surveyed at 25.33 ha (62.6 ac). The lease was renewed in 1970.

Associated minerals or products of value
beryllium.

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

Airborne surveys done in the area in 1959-1971 are summarized as follows:

Permit	Company	Survey	Year	Assessment File No.
AP26	Canadian Nickel Company Limited	Airborne EM	1959	90008
AP82	Keevil Mining Group Limited	Radiometric	1969	91677
AP93	H.B.E.D.	Helicopter EM and radiometric	1971	91686

The lease (M-2696) was cancelled in 1976. The area was restaked for Tantalum Mining Corporation of Canada Limited (Tanco) as follows:

Year	Claim Name	Acreage	Stakers
1979	Smoke 4 (CB11623)	145.7 ha	S. Smith (A. Nilsson)
1982	Dave #2 (W46754)	65 ha	D.L. Trueman (H. Nilsson)

Tanco is owned by Hudson Bay Mining and Smelting Co., Limited (37.5%), Kawecki Berylco Industries (37.5%) and the Manitoba Government (25%).

REFERENCES

Bannatyne, B.B., 1985, Industrial minerals in rare-element pegmatites of Manitoba; Manitoba Energy and Mines, Geological Services, Economic Geology Report ER84-1, p. 64.

Beer, H.L., 1951, Beneficiation of a Canadian spodumene ore from Cat Lake district, Manitoba; Precambrian, v. 24, No. 6, p. 8-11 (also in Manitoba Mines Branch, Unpublished Information Files).

Cerny, P., Trueman, D.L., Ziehlke, D.V., Goad, B.E. and Paul, B.J., 1981, The Cat Lake-Winnipeg River and the Wekusko Lake pegmatite fields, Manitoba; Manitoba Department of Energy and Mines, Mineral Resources Division, Economic Geology Report ER80-1, p. 93.

Manitoba Mines Branch:
a Non-confidential Assessment Files; File Nos. 90008, 91677, 91686.
b Unpublished Information Files; 52L/11.

Mulligan, R., 1965, Geology of Canadian lithium deposits; Geological Survey of Canada, Economic Geology Report No. 21, p. 73.

Phillips, K.A., 1978, Minerals of Manitoba, Volume 1: Non-metallic and pegmatitic; Manitoba Department of Mines, Resources and Environmental Management, Mineral Resources Division, MRD Educational Series 78/1, p. 75.

NAME OF PROPERTY — F.D. No. 5

N.T.S. AREA 52 L/11 SW

FILE NO. 222

REF. LI 3

REFERENCES cont'd

Rowe, R.B., 1956, Lithium deposits of Manitoba; Geological Survey of Canada, Paper 55-26, p. 6.

Springer, G.D., 1950, Mineral deposits of the Cat Lake-Winnipeg River area; Manitoba Mines Branch, Publication 49-7, p. 9.

MAP REFERENCES

*Map 52L/11, West, Flintstone Lake, (Topographic), Scale 1:50 000 - Mines and Technical Surveys, Canada.

Map 4047 G, Flintstone Lake, (Aeromagnetic), Scale 1:63 360 - Manitoba Mines Branch and Geological Survey of Canada.

Map 37-2, Euclid and Cat Lake area, (Geology), Scale 1:31 680, by F.D. Shepherd, Manitoba Mines Branch (1942).

Map 49-7, Cat Lake-Winnipeg River area, (Geology), Scale 1:63 360 - Accompanying Report by Springer (1950), Manitoba Mines Branch.

Preliminary Map 1972 F-1, Geological compilation map of the Bird River area, (Geology), Scale 1:50 000, by D.L. Trueman, Manitoba Mines Branch.

Preliminary Map 1978 F-2, Pointe du Bois (West part), (Geology), Scale 1:250 000, by D.A. Janes, Manitoba Mines Branch.

Preliminary Map 1979 UR-8, Nopiming Provincial Park, (Scintillometer survey), Scale 1:126 720, by N.M. Soonawala, Manitoba Mines Branch.

Map ER80-1-1, Cat Lake-Winnipeg River pegmatite field, (Geology), Scale 1:100 000 - Accompanying Report by Cerny et al.(1981), Manitoba Mineral Resources Division.

#Claim Map Series SW 11, 52L, Scale 1:31 680, circa 1974, Mining Recording, Manitoba Mines Branch.

REMARKS

1. "The F.D. No. 5 pegmatite outcrops on the eastern slope of a rounded granitic outcrop 250 m northeast of the outlet of Cat Creek at the western end of Cat Lake" (Bannatyne, 1985).

2. Lithium is also present on the Eagle No. 1 (see 52L/11 LI 4) owned by Lithium Corp. of America, approximately 0.2 km (1/8 mi) east of the F.D. No. 5. Diamond drilling has indicated some 544 460 tonnes (600 000 tons) grading 1.4% Li_2O. The lithium occurs in a pegmatite dyke which has an established length of 762 m (2500 ft).

Comp./Rev.		GGS	PA
By Date	02-68	11-73	05-88

PRODUCT Lithium **N.T.S. AREA** 52L/11SW **REF.** LI 4

NAME OF PROPERTY:
Eagle No. 1

OWNER OR OPERATOR AND ADDRESS
1988-Tantalum Mining Corporation
of Canada Limited
Box 2000
Lac du Bonnet, Manitoba
R0E 1A0

OBJECT LOCATED: Open cut symbol **MINING DIVISION** Winnipeg

Lat. 50° 36.97' Long. 95° 28.20' **UNCERTAINTY:** 50 m

Sec. Tp. 19 R. 15 EPM

DESCRIPTION OF DEPOSIT

The deposit is situated in a zone of lenticular pegmatite dykes which "occur in (Precambrian) granite and meta-volcanic rock and are exposed over a distance of about 1750 feet (533 m). The ten largest of these pegmatite bodies.....are en echelon lenses that range up to 245 feet (75 m) in length and 30 feet (9 m) in width as exposed" (Rowe, 1956).

According to Bannatyne (1985), the dykes outcrop over an area 823 m long and up to 30 m wide, and generally strike at 077° (Fig. 1). "Drilling results suggest that the dykes dip between 80° north and vertical, and that some of the wider surface pegmatites occur as multiple thin dykes at depth" (Bannatyne, 1985).

"Fine- to medium-grained white and light green spodumene is confined mainly to narrow quartz-rich stringers and pods that are interstitial to coarse white and pink feldspar masses and aplite bands.....The individual pegmatite bodies ....are mostly unzoned, but some, in granite, have well defined borders of white aplite, a few inches to a few feet thick. Some have one wall zone of aplite, the other of coarse microcline-quartz-muscovite pegmatite" (Mulligan, 1965). Garnet, tourmaline, fluorite, beryl, (Davies, 1956), and columbite-tantalite (Cerny et al., 1981, p. 95) have been noted.

"The thickest exposures of pegmatite and the most abundant spodumene occur in the eastern half of the pegmatite zone....Greenish spodumene crystals occur in radiating clusters 6.25 cm across....Some individual spodumene crystals are 25 by 6 mm." (Bannatyne, 1985).

In the metavolcanics, the dyke is narrower, reaching a width of 5.5 m in one place. It splits into a northern "white" pegmatite and a southern "fine-grained pink" pegmatite at the extreme western end. In the western section, the dyke is 1.8 to 2.4 m wide, and forms a pronounced ridge extending

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Associated minerals or products of value
beryl, columbite-tantalite.

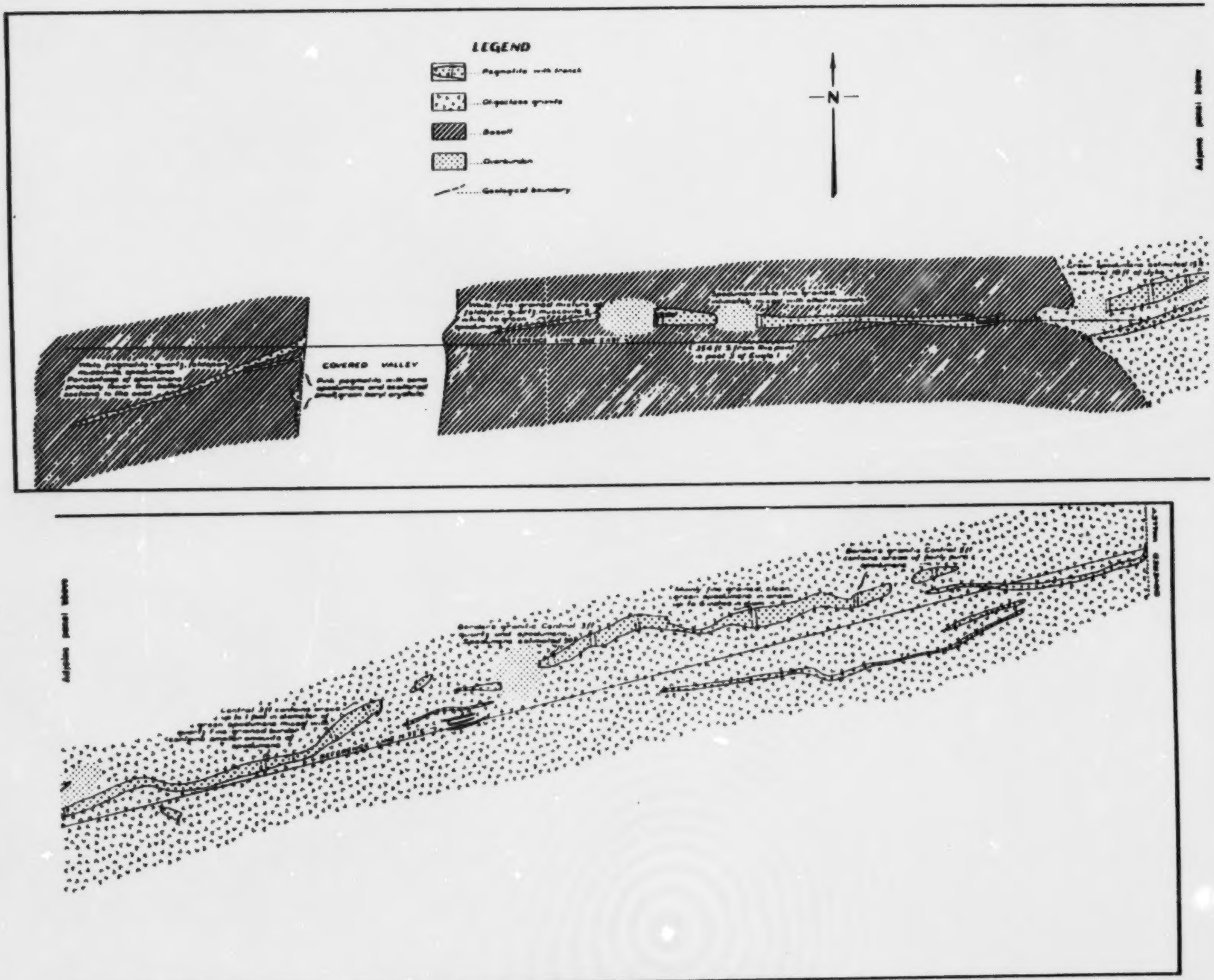

Figure Plan of Eagle pegmatite, Cat Lake (map by Springer, 1950). (Source: Bannatyne, 1985: 66).

DESCRIPTION OF DEPOSIT cont'd

30 to 90 cm above the metavolcanics....(It) has a well-defined banded structure, and aplite occurs along the south contact" (Bannatyne, 1985). Spodumene occurs "dispersed through a fine grained quartz + muscovite matrix" and has also been noted with dark quartz and white albite megacrysts (Bannatyne, 1985).

HISTORY OF EXPLORATION AND DEVELOPMENT

The deposit is located 0.4 km northwest of the west end of Cat Lake, 12 km northeast of Maskwa Lake and in the immediate vicinity of Provincial Road No. 314.

The area around the deposit was staked by many people in several groups of claims.

Claim Group	Claim Numbers	Year
Spud Group	44552-57	1928
Turret Group	W73-76	1931
Progress Group	W65-68	1932
Garry Group	W3685-89	1934

In 1943 L. Johnson staked Eagle No. 1 (W11842) over the deposit and a year later assigned it to H. Johnson. Geological and magnetometer surveys were made over the property in 1943, and in 1944 Hudson Bay Exploration and Development Company Limited took out an option. A total of 476 m (1561 ft) of drilling was completed in 6 holes, but the option was abandoned later in the same year.

Eleven trenches, averaging 5 x 0.6 x 1.2 m (15 x 2 x 4 ft) were made in 1946. The highest assay value reported was 1.86% Li_2O over 1.5 m (5 ft) in Trench #2. Ledoux & Company, Inc. analyzed short sections of the previous drill-core, reporting assays of 0.27 - 2.41% Li_2O (Non-confidential Assessment File No. 91767).

The property was assigned to Mining Developments Ltd. in 1947. The Northern Miner (December 11, 1947) reported that The Lithium Corporation of America, Inc. had acquired a substantial interest in Mining Developments Ltd. and that there was "approximately 25 tons (23 tonnes) of crude ore waiting at the property for freeze-up for shipment to Lithium Corporation's wholly-owned subsidiary, Metalloy Corporation at Minneapolis, Minnesota, for treatment". It was also stated that 544 460 tonnes (600 000 tons) of spodumene ore with an average content of 1.4% Li_2O was indicated to a depth of 61 m (200 ft) and that structural conditions suggested additional tonnages at depth.

In 1948 Mining Developments Ltd. changed its name to Northern Chemicals Ltd. and the latter attempted to arrange financing to bring the property into production. Lease M-2703 was issued on 26.6 ha (65.85 ac), Eagle No. 1 in 1949, and after financing could not be arranged, the claim was assigned to Lithium Corporation of America, Inc. in 1954.

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

The Keevil Mining Group Limited showed some interest in the property in 1960, but apparently did not take up an option. The lease was renewed for an additional 21 years in 1970.

Airborne surveys flown over the area in 1959-1971 are summarized as follows:

Permit	Company	Survey	Year	Assessment File No.
AP26	Canadian Nickel Company Limited	Airborne EM	1959	90008
AP82	Keevil Mining Group Limited	Radiometric	1969	91677
AP93	H.B.E.D.	Helicopter EM and radiometric	1971	91686

The lease (M2703) was cancelled around 1976, and the area opened for staking. It was restaked for Tantalum Mining Corporation of Canada Limited (Tanco) as follows:

Year	Claim	Acreage	Staker
1979	Smoke 3 (CB11622)	256.6 ha	A. Nilsson (S. Smithe)
1982	Dave #1 (W46753)	64 ha	D.L. Trueman (H. Nilsson)

Tanco is owned by Hudson Bay Mining and Smelting Co., Limited (37.5%), Kawecki Berylco Industries (37.5%), and the Manitoba Government (25%).

Partial chemical analyses of three spodumene samples from the area indicated contents of up to 7.87 wt% Li_2O (Cerny et al., 1981, p. 104).

REFERENCES

Bannatyne, B.B., 1972, Pegmatite project; in Summary of Geological Fieldwork 1972; Manitoba Department of Mines, Resources and Environmental Management, Mines Branch, Geological Paper 3/72, p. 50-53.

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Beer, H.L., 1951, Beneficiation of a Canadian spodumene ore from Cat Lake district, Manitoba; Precambrian, v. 24, No. 6, p. 8-11 (also in Manitoba Mines Branch, Unpublished Information Files).

Cerny, P., 1987, Petrogenesis of pegmatites in the Cat Lake-Winnipeg River and Wekusko Lake fields, Manitoba; in Centre for Precambrian Studies; University of Manitoba, Annual Report 1987, p. 13.

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Davies, J.F., 1956, Manitoba lithium deposits (Cat Lake-Winnipeg River area); Canadian Mining Journal, v. 77, No. 4, p. 78-79.

Davies, J.F., 1956, Lithium deposits of the Cat Lake-Winnipeg River area; in Manitoba Mines Branch, Unpublished Information Files.

Manitoba Mines Branch:
a Non-confidential Assessment Files; File Nos. 90008, 91677, 91686, 91767.
b Unpublished Information Files; 52L/11.
c Corporation Files; Mining Developments Ltd.; Northern Chemicals Ltd.; Lithium Corporation of America, Inc.
d Mining Engineering Files; Northern Chemicals Ltd.
e Annual Report on Mines and Minerals; 22nd, p. 70.

Mulligan, R., 1957, Lithium deposits of Manitoba, Ontario, and Quebec 1956; Geological Survey of Canada, Paper 57-3, p. 20.

Mulligan, R., 1965, Geology of Canadian lithium deposits; Geological Survey of Canada, Economic Geology Report No. 21, p. 68-71, 112-113.

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Springer, G.D., 1948, Geology of the Cat Lake-Maskwa Lake area; Manitoba Mines Branch, Preliminary Report, Publication 47-2, 9p.

Springer, G.D., 1950, Mineral deposits of the Cat Lake-Winnipeg River area; Manitoba Mines Branch, Publication 49-7, p. 8-9.

MAP REFERENCES

*Map 52L/11, West, Flintstone Lake, (Topographic), Scale 1:50 000 - Mines and Technical Surveys, Canada.

Map 4047 G, Flintstone Lake, (Aeromagnetic), Scale 1:63 360 - Manitoba Mines Branch and Geological Survey of Canada.

MAP REFERENCES cont'd

Map 49-7, Cat Lake-Winnipeg River area, (Geology), Scale 1:63 360 - Accompanying Report by Springer (1950), Manitoba Mines Branch.

Figure 1, Plan of the Eagle dyke, Cat Lake, (Geology), Scale 1:720 - Accompanying Report by Springer (1950), Manitoba Mines Branch.

Preliminary Map 1972 F-1, Geological compilation map of the Bird River area, (Geology), Scale 1:50 000, by D.L. Trueman, Manitoba Mines Branch.

Preliminary Map 1978 F-2, Pointe du Bois (West part), (Geology), Scale 1:250 000, by D.A. Janes, Manitoba Mines Branch.

Map ER80-1-1, Cat Lake-Winnipeg River pegmatite field, (Geology), Scale 1:100 000 - Accompanying Report by Cerny et al.(1981), Manitoba Mineral Resources Division.

Claim Map Series SW 11, 52L, Scale 1:31 680, circa 1974, Mining Recording, Manitoba Mines Branch.

REMARKS

1. Immediately adjacent on the east of Eagle No. 1 is F.D. No. 5 (See: 52L/11 LI 3).
2. A "red" pegmatite on the claim contains coarse-grained quartz, pale to green mica, black and blue tourmaline, and small white beryl crystals (Mulligan, 1957, p. 20). A dyke of similar description is reported to strike 010° and dip 60-70° E in one place (Bannatyne, 1985), and to carry spodumene (Springer, 1950).
3. Three parallel dykes occurring 0.4 to 1.0 km west of the west end of the Eagle dyke contain accessory spodumene (Bannatyne, 1985, p. 68).

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By Date	02-68	11-73	05-88

MANITOBA ENERGY AND MINES **MINERAL INVENTORY FILE NO. 224**

PRODUCT Lithium **N.T.S. AREA** 52L/11 SW **REF.** LI 5

NAME OF PROPERTY:
Central M.C.

OWNER OR OPERATOR AND ADDRESS
1988-William C. Hood
Box 1722
Beausejour, Manitoba
R0E 0C0

OBJECT LOCATED: Centre of Central M.C. **MINING DIVISION** Winnipeg

Lat. 50° 36'	Long. 95° 27'	UNCERTAINTY: 500 m
Sec.	Tp. 19	R. 15 EPM

DESCRIPTION OF DEPOSIT

The deposit is of Archean age and occurs in the Rice Lake Group of metavolcanics. The lithium-bearing pegmatite dyke is well exposed for about 91 m (300 ft) along the face of a cliff of quartz diorite in the centre of the claim. The dyke generally strikes N25°W, and dips 13-25° SW. According to Cerny et al.(1981), the pegmatite is a "subhorizontal tabular body averaging about 4 m in thickness (but varying between 1.10 and 7 m) and extending in excess of 500 m and 350 m in the north and east directions, respectively, through the Maskwa Lake quartz diorite".

The dyke appears to be distinctly zoned. Bannatyne (1985) describes a border zone consisting of schistose biotite; a wall zone of yellowish muscovite + quartz, with some 'purpurite'; and a zone of "white to pinkish medium grained microcline-perthite...10 per cent quartz in fine- to medium-grained patches... ...(and) very coarse microcline-perthite crystals", with quartz-spodumene intergrowths in the lower part. A saccharoidal quartz unit cuts the wall and core zones, and reportedly carries "beryl, tantalite, tourmaline, apatite, cassiterite, and products of triphylite alteration" (Cerny et al., 1981). The sheared biotite zone that is found along the hanging wall and foot wall contacts of the pegmatite apparently contains 0.62% Li_2O, 0.54% Rb_2O, 0.57% Cs_2O (Cerny et al., 1981).

According to another report, the Central pegmatite consists of "a footwall zone of fine-grained aplite of patchy distribution, a conventional wall zone of quartz, feldspar, mica, tourmaline, and beryl, an intermediate zone of quartz, feldspar, mica and cleavelandite, and a central spodumene core, all of the above of which have been cross-cut by a later albitic aplite" (tantalum mineralization is apparently associated with the aplitic phases) (Non-confidential Assessment File No. 92681). A metal, "possibly" tantalite, (DeLury, 1927), blue apatite (Mulligan, 1957), garnet, pale beryl (Mulligan, 1965), and chrysoberyl in crystals up to 3 x 20 mm in size (Cerny et al., 1981) have also been reported.

Associated minerals or products of value
tantalum, beryllium, feldspar, cesium, rubidium, (tin in traces).

DESCRIPTION OF DEPOSIT cont'd

Mulligan (1956) states "spodumene occurs mainly as random-orientated white to pale green crystals up to 24 inches (61 cm) long, embedded in a coarse quartz-feldspar pegmatite. Some of it (spodumene) occurs as parallel needles intergrown with quartz in aggregates that are interstitial to feldspar masses".

The percentage of quartz-spodumene rock varies greatly in different parts of the dyke. Rough field estimates by Stockwell (1932) indicate that in some sections the "quartz-spodumene rock forms as much as 75% of the whole". On the average the "lithium-bearing zone consists of approximately 50% quartz-spodumene rock".

HISTORY OF EXPLORATION AND DEVELOPMENT

This claim is located approximately 152.4 m south of the centre of Cat Lake and can be reached from a road that intersects the Cat Lake road 2.7 km south of the mining camp at Cat Lake.

The area was first staked as Cat Lake M.C. (39652) by F. Zeemel in 1926. Later that year he assigned 1/4 interest each to E. Hanson and M. Johnston and 1/8 interest each to G.F. Briggs and A.R. Bowes. Considerable pitting and trenching were done on the claim before it was cancelled in 1933. The area was restaked immediately as the Central M.C. (W1899) by Albert Zeemel. Fritz Zeemel acquired the claim in 1946.

The Central M.C. went to lease (M-1752) in 1947 and was surveyed at 21.7 ha (53.62 ac). In 1951, 1/3 interest each was assigned to P. Apsit and H. White. A showing containing spodumene, beryl, and tantalite was reported on a 1954 geological map (Scale 1:2400) of the area done by G.A. Russell. In 1955, the three co-owners assigned all their interest to H. Johnson, who immediately assigned the claim to Cat Lake Consolidated Metals Limited.

The following airborne surveys were reportedly done in the area:

Airborne Permit No.	Company	Survey	Year	Assessment File No.
AP26	Canadian Nickel Company Limited	Airborne EM	1959	90008
AP82	Keevil Mining Group Limited	Radiometric	1969	91677
AP93	H.B.E.D.	Helicopter EM and radiometric	1971	91686

The lease (M-1752) was renewed in 1968. A large amount of surface work (pitting and trenching) has been reported on the claim since 1926 with some 432 m^3 (15 256 cu ft) of material being removed. The lease was converted back to a claim in 1976.

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

Tantalum Mining Corporation of Canada Limited (Tanco) which is owned by Hudson Bay Mining and Smelting Co., Limited (37.5%), Kawecki Berylco Industries (37.5%), and the Manitoba Government (25%), optioned the property in 1978 following reports of Ta-mineralization in surface samples.

That year, Tanco carried out lithium lithogeochemical surveys over the deposit on a 46 x 46 m (150 x 150 ft) grid and on a 46 x 152 m (150 x 500 ft) grid. The survey results indicated a lithium anomaly in the area between the Central and Mapetre dykes (see Remarks). Geological mapping (Scale 1:1200) of the property was also done, followed by 521 m of diamond drilling in 14 drill holes that ranged in depth from 18 to 76 m (Non-confidential Assessment File No. 92681).

The drilling apparently indicated that the pegmatite has a "uniform thickness of about 15 feet (5 m) over an area of about 1800 by 1400 feet (549 x 427 m)", remaining open to the west and south. Drill-core assays indicated only minor tin (up to 0.013% SnO_2) and tantalum (up to 0.048% Ta_2O_5) values. The best tantalum grades were in the "swells" in the dyke, particularly in the "up-dip, more fractionated eastern portions which are now largely eroded". It was also reported that "the spodumene zone is essentially closed, and of small dimensions" (Non-confidential Assessment File No. 92681).

Cerny et al.(1981, p. 104) reported contents of up to 8.01 wt% Li_2O in five samples of spodumene from the area.

The Central M.C. (W1899) claim was cancelled in 1984. The area was restaked as follows:

Year	Claim Name	Acreage	Staker
1984-1986	Central M.C. (W50659)	16 ha	James W. Campbell
1987 to present	Centralith (W51527)	16 ha	William C. Hood

REFERENCES

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Cerny, P. and Turnock, A.C., 1971, Pegmatites of southeastern Manitoba; in Geoscience Studies in Manitoba, ed. A.C. Turnock; Geological Association of Canada, Special Paper No. 9, p. 119-127.

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Manitoba Mines Branch:
a Non-confidential Assessment Files; File Nos. 90008, 91677, 91686, 92681.
b Mining Recording Files; File No. 2633 (Central).

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Stockwell, C.H., 1932, Lithium deposits; in Geology and Mineral Deposits of a Part of Southeastern Manitoba, by J.F. Wright; Geological Survey of Canada, Memoir No. 169, p. 124-126.

MAP REFERENCES

*Map 52L/11, West, Flintstone Lake, (Topographic), Scale 1:50 000 - Mines and Technical Surveys, Canada.

Map 4047 G, Flintstone Lake, (Aeromagnetic), Scale 1:63 360 - Manitoba Mines Branch and Geological Survey of Canada.

Map 37-2, Euclid and Cat Lake area, (Geology), Scale 1:31 680, by F.D. Shepherd, Manitoba Mines Branch (1942).

MAP REFERENCES cont'd

Map 49-7, Cat Lake-Winnipeg River area, (Geology), Scale 1:63 360 - Accompanying Report by Springer (1950), Manitoba Mines Branch.

Preliminary Map 1972 F-1, Geological compilation map of the Bird River area, (Geology), Scale 1:50 000, by D.L. Trueman, Manitoba Mines Branch.

Preliminary Map 1978 F-2, Pointe du Bois (West part), (Geology), Scale 1:250 000, by D.A. Janes, Manitoba Mines Branch.

Map ER80-1-1, Cat Lake-Winnipeg River pegmatite field, (Geology), Scale 1:100 000 - Accompanying Report by Cerny et al.(1981), Manitoba Mineral Resources Division.

#Claim Map Series SW 11, 52L, Scale 1:31 680, circa 1974, Mining Recording, Manitoba Mines Branch.

REMARKS

1. The pegmatite is exposed along the base of a cliff of granitic rock, 335 m south of Cat Lake (Bannatyne, 1985).
2. A massive aplite lens with some coarse-grained feldspar was reported near the northern end of the dyke, exposed over a length of 6 m (Bannatyne, 1985). K-feldspar samples from the locality returned contents of 7730 ppm Rb, 380 ppm Cs (Cerny, 1987).
3. White beryl crystals (3 to 12 mm across, 2 to 5 cm long) were noted in small pegmatite dykes, located north of the Central pegmatite (Bannatyne, 1985, p. 65).
4. "a lithium anomaly extends westward from the southwest corner of the Central Claim body" (Cerny et al., 1981).
5. Large quantities of spodumene "could easily be recovered by hand-cobbing" (Mulligan, 1957).
6. Tantaliferous spodumene-bearing pegmatites (the Mapetre pegmatites) occur in CB 8268 at the southeastern end of Cat Lake (See: DeLury, 1927; Bannatyne, 1985, p. 65; Non-confidential Assessment File Nos. 91768, 92681).

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By Date	02-68	11-73	05-88

PRODUCT Lithium **N.T.S. AREA** 52L/12 SE **REF.** LI 1

NAME OF PROPERTY:
Spot Group
(Spot No. 1, 2
- Main, South dykes)

OWNER OR OPERATOR AND ADDRESS
1988-Tantalum Mining Corporation
of Canada Limited
Box 2000
Lac du Bonnet, Manitoba
R0E 1A0

OBJECT LOCATED: Centre of Spot No. 1 **MINING DIVISION** Winnipeg

Lat. 50° 36.8' Long. 95° 34.9' UNCERTAINTY: 500 m

Sec. Tp. 19 R. 14 EPM

DESCRIPTION OF DEPOSIT

"Two major pegmatite dykes cut volcanic greenstones, that are intruded by coarse porphyritic gabbro, and underlie a limited area surrounded by a granite batholith.

The main or south dyke (Fig. 1, 2) is exposed intermittently for 1,800 feet (549 m) and drilling has established its continuation for a further 1,400 feet (427 m) to its western termination in a body of granite. In its central part the dyke is broken up and apparently offset. It strikes N54°E and dips steeply" (Mulligan, 1965). The dip of the dyke decreases to about 45° at a depth of 200 m, according to drilling results (Bannatyne, 1985). The dyke is essentially unzoned. It consists of columnar K-feldspars (3-10 cm long), quartz, albite, spodumene, (Cerny et al., 1981, p. 99), minor apatite and garnet (Mulligan, 1965), and rare tantalite. K-feldspars are enriched in Rb and Cs (Cerny et al., 1981). "Spodumene is distributed more or less uniformly through-out, but is locally segregated into bands with quartz and bluish white feldspar" (Mulligan, 1965). The spodumene is white (a few blades are pale mauve) and mostly in fine laths. These show a tendency to parallelism, but their orientation is variable from place to place. Spodumene crystals 10 to 80 mm long and 3 to 6 mm wide are known to occur. Pollucite was found in a sample of pegmatite (Cerny and Bristol, 1972).

The other major dyke, the North dyke, is described in Mineral Inventory card 52L/12 LI 2. "Several other minor lithium-bearing dykes outcrop on the property, mainly within the angle formed by longitudinal projections of the main dykes" (Mulligan, 1965). See Figure 1.

Associated minerals or products of value
copper, zinc (nickel), tantalum, tin, rubidium, cesium.

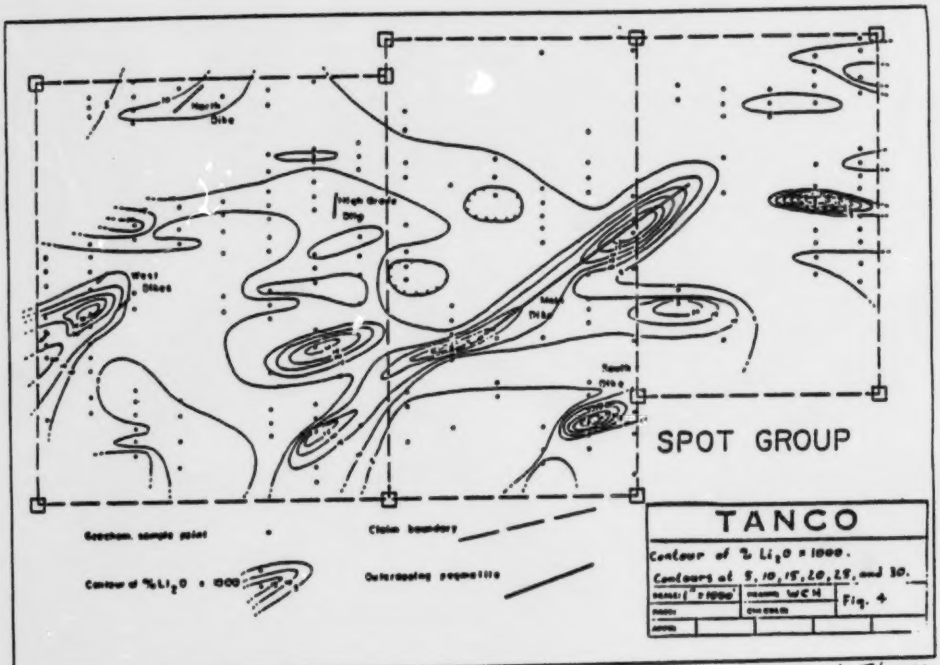

Figure 1: Spot Group pegmatites (source: Non-confidential Assessment File No. 92377).

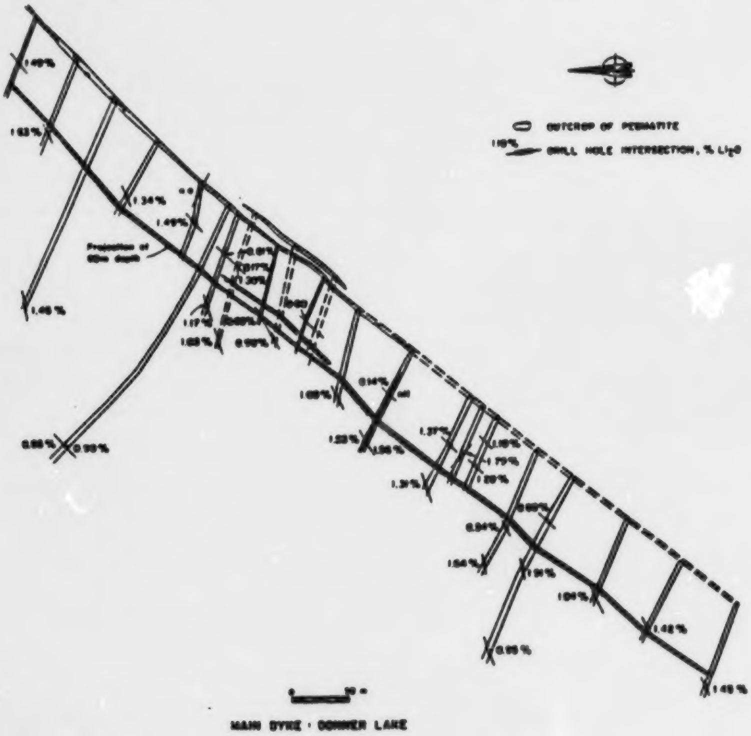

Figure 2: Drilling results, Donner Lake pegmatites: Main dyke ; data from drill hole logs in ESS file 91769.
Source: Bannatyne (1985: 71)

52L/12 Li1

HISTORY OF EXPLORATION AND DEVELOPMENT

The pegmatite dykes occur northeast of Maskwa Lake and 8 km west and 1.61 km north of Cat Lake and Provincial Road No. 314.

The following stakings have occurred:

	Claim Name	Number	Year	Staker
1.	Prince M.C.	28686	1919	D. Kura
2.	Tony M.C.	31723	1923	A. Hacoisto
3.	Chinook No. 3 -1928 - assigned F.K. Black Assigned - Bear River Copper Company, Limited (later Gold Rock Mines Ltd)	6342	1928	H. Rowland
4.	Bear	6423	1928	F.E. Rice
5.	Bob	28677	1919	A. Haavisto
6.	Cob	9916	1928	L. Haavisto
7.	Golden Girl No. 1, 2	9868, 9	1928	G. & A. Haavisto
8.	Spot No. 1-4	W12134-7	1943	P. Osis
9.	Spot No. 5-7	W12138-40	1943	P. Osis
10.	Spot No. 8-10	W18394-6	1951	P. Osis
11.	Spot No. 11 -1955 assigned to P. Osis	W18492	1951	R. Donner
12.	Spot No. 5-7	W20473-5	1954	J. Donner

Spot Group: (191.6 ha)
- 1955 optioned Violamac Mines Limited and J. Donner
- 1956 assigned Lithia Mines and Chemicals Limited (a subsidiary of Violamac Mines Limited)
- 1957 surveyed

In 1928 a zone was found on the Chinook Group, 11 m (35 ft) in width and 213 m (700 ft) in length, having high surface showings of copper. Trenches were cut across the ore body. It was recommended that the property be drilled.

An unknown amount of work was performed on the other claims (numbered 1 to 7).

On Spot No. 1 and 2, 106 m^3 (3728 cu ft) of rock was removed from 15 trenches and 961 m^3 (33 928 cu ft) of stripping. On other Spot claims, 48 m^3 (1686 cu ft) of rock was removed from 4 pits.

In 1947, geological mapping at a scale of 1:2400, stripping and linecutting were reported as assessment work by John Drybrough. Detailed mapping of the Spot 1, 2 claim areas at a scale of 1:600 was also done. Surface samples from the Spot No. 1 and 2 claim areas assayed up to 2.38% Li_2O (Non-confidential Assessment File No. 91770). Assay results of 1.16 - 2.04% Li_2O over widths ranging from 1.6 to 4 m (5.2 to 14 ft) were reported by J. Donner (Rowe, 1956).

The property was mapped again in 1955 by Violamac Mines Limited at a scale of 1:4800. Detailed mapping of the Spot Nos. 1, 2, 3 claim areas at a scale of

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

1:1200 was also done. This was followed by 3133 m (10 278 ft) of drilling in 34 holes, of which 19 holes were drilled on Spot No 1; 12 holes on Spot No. 2; and 3 holes on Spot No. 3. The best drill-core intersections of the Main dyke (see Fig. 2) were reported as follows (Non-confidential Assessment File No. 91769):

Drill Hole No.	% Li_2O	Interval	Sample Depth
1	1.794	11.1 m (36' 3")	55 m (180.7 ft)
8	1.911	5.8 m (19')	78 m (257.2 ft)
12	1.448	4.5 m (14' 8")	76 m (248.3 ft)
25	1.64	5.9 m (19' 3")	99 m (324.4 ft)

The Main dyke, on Spot No. 1 and 2 is trenched for 610 m (2000 ft).

Violamac Mines Limited has reported the following:

	MAIN DYKE
Total drilled length	975 m (3200 ft) (open downward)
depth	-----
Total ore length	810 m (2656 ft)
Ave. ore width	3.3 m (10.9 ft)
Ave. grade	1.302% Li_2O
Tonnes (tons) per vertical metre (ft)	7350 tonnes (2470 tons)
Tonnes (tons) indicated to drilled depth of 252 m (825 ft)	1 848 460 tonnes (2 037 000 tons)
Tonnes (tons) inferred to 305 m (1000 ft)	392 920 tonnes (433 000 tons)
Total indicated and inferred	2 241 380 tonnes (2 470 000 tons)

The spodumene of the main dyke contains 7.44% lithia, 0.07% manganese and 0.032% iron. The low iron content makes it excellent for glass making and ceramics. Concentrates prepared during bench tests indicated contents of up to 5.9% lithia, averaging 5.2% lithia; tests to improve the 70% recovery were continuing (Non-confidential Assessment File No. 91769).

Airborne surveys were done in the area by Canadian Nickel Company Limited in 1959, by Keevil Mining Group Limited in 1969, and by Hudson Bay Exploration and Development Company Limited in 1971 (Non-confidential Assessment File Nos. 90008, 91677, 91686).

In 1970, the Spot Nos. 1-7, and No. 11 claims were leased under M-9123 - M-9130. That year, a 33 m (100 ft) deep drill hole was drilled on the Spot No. 9 claim (Non-confidential Assessment File No. 91771). The next year, 21 year leases M-9229 - M-9231 were obtained for the Spot Nos. 8-10 claims. The area was examined by the Manitoba Government in 1973 and 1974. (See 52L/12 LI 2). The 21-year leases were cancelled in 1976. The next year, the area was restaked under CB 7688, CB 7689, comprising 98 ha and 130 ha respectively, by Stephen G. Diakow (assisted by Volker Ahlborn). The claims were assigned to Canadian Superior Exploration Limited in March, and then to John S. Vincent in December 1977.

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

In 1978, Tantalum Mining Corporation of Canada Limited (Tanco) which is owned by Hudson Bay Mining and Smelting Co., Limited (37.5%), Kawecki Berylco Industries (37.5%) and the Manitoba Government (25%), obtained the claims. In 1979, a grouping certificate (G3016) was issued for CB 7688, CB 7689 and CB 7690 (see 52L/12 LI 2). That year, Tanco carried out a bedrock lithium geochemical survey, and a tin/tantalum exploration program in the area (Non-confidential Assessment File No. 92397).

The lithium survey for which 189 samples were analyzed using atomic absorption techniques, resulted in the outlining of five anomalies corresponding to five pegmatite dykes (North, West, High Grade (see 52L/12 LI 2), Main, South) in the locality. See Figure 1. The Main dyke occurs on CB 7688-89; the South dyke on CB 7689.

The tin and tantalum program was carried out on the South and North dykes. Grab samples taken from the South dyke returned assays of up to 0.048% Ta_2O_5 and 0.016% SnO_2, averaging 0.03% Ta_2O_5, 0.01% SnO_2 in eleven samples. The South dyke was examined with another lithogeochemical survey in 1981. Sixty-six samples were collected and analyzed, and assays of up to 2770 ppm Li_2O were reported (Non-confidential Assessment File No. 92399).

The area containing the Main dyke was restaked as Susan No. 1, 2 (W48027, 28) by D.L. Trueman and H. Nilsson in 1982, and as Spot 1, 2 (W48960, 61) by Randy M. Karklin in 1983, on behalf of Tanco. The claims each cover 64 ha.

Indicated and inferred ore reserves on the property, including both the Main and North dykes, were reported as 3 950 000 tons (3 584 390 tonnes) at 1.281% Li_2O by Violamac Mines Ltd. (Non-confidential Assessment File No. 91769) or as 4 000 000 tons (3 629 000 tonnes) grading 1.28% Li_2O by Bannatyne (1985).

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b Unpublished Information Files; 52L/11.
c Corporation Files; Bear River Copper Company Limited; Gold Rock Mines Ltd.; Violamac Mines Limited; Tantalum Mining Corporation of Canada Limited.
d Mining Engineering Files; Bear River Copper Company Limited; Violamac Mines Limited.

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Map 37-1, Maskwa Lake north, (Geology), Scale 1:31 680, by F.D. Shepherd, Manitoba Mines Branch (1942).

Map 49-7, Cat Lake-Winnipeg River area, (Geology), Scale 1:63 360 - Accompanying Report by Springer (1950), Manitoba Mines Branch.

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#Claim Map Series SE 12, 52L, Scale 1:31 680, circa 1974, Mining Recording, Manitoba Mines Branch.

REMARKS

1. Portions of the Spot claims fell under the 256 ha, Lightning 1 (W48270) claim which was held by W.C. Hood in 1983-1985.

2. The South dyke occurs on the old Spot No. 6 (W13852, W20474) claim which was previously Dot 1 (W12132) that was held by August Osis in 1943-1945.

Comp./Rev.		CC	PA
By Date	02-68	12-73	05-88

MANITOBA ENERGY AND MINES **MINERAL INVENTORY FILE NO. 290**

PRODUCT Tantalum **N.T.S. AREA** 53 E/2 SW **REF.** TA 1

NAME OF PROPERTY:
Gorman Lake

OWNER OR OPERATOR AND ADDRESS
1988 - Open

OBJECT LOCATED -tl, ta-cb-q showing **Mining Division** Winnipeg

Lat. 53° 05' Long. 94° 51' UNCERTAINTY: 1000 m

Sec. Tp. 47 R. 18, 19 EPM

DESCRIPTION OF DEPOSIT

A white albitic pegmatite dyke, containing tourmaline, molybdenite, tantalite-columbite, pyrite, and chalcopyrite intrudes Precambrian paragneiss.

According to Ermanovics et al. (1975), pegmatites occurring in greywacke and calc-silicate rocks in the Gorman Lake - Azure Lake area are reported to carry tourmaline and tantalite-columbite.

HISTORY OF EXPLORATION AND DEVELOPMENT

This deposit, located on the north shore of Gorman Lake, is approximately 173.8 km east of Lake Winnipeg and 77.2 km south of Island Lake, and is near the Manitoba-Ontario boundary.

Tantalite-columbite was first reported in the area in 1931 by D.R. Derry and G.S. MacKenzie of the Ontario Department of Mines. In 1960, H.A. Quinn noted this occurrence on Map 26-1960.

The following airborne surveys were done in the area in 1969-1973:

Airborne Permit	Year	Company	Survey
AP 80	1969	Keevil Mining Group Limited	Spectrometric
AP 113	1973	Manitoba Mineral Resources Ltd.	AEM/AMAG

(Non-confidential Assessment File Nos. 91675, 92021).

In 1974, Exploration Reservation 127, area 12 497 ha, was issued to Manitoba Mineral Resources Ltd. Selco Mining Corporation held a 5% interest in the property as of mid-1973, and the Department of Mines, Resources and Environmental Management joined the exploration venture in January 1975 with a 45% interest. In 1974-1975, geophysical work was carried out in the Azure Lake area and in northern parts of Reservation 127 but not in the Gorman Lake area (Non-confidential Assessment File No. 91394). The area re-opened for staking in 1975.

Associated minerals or products of value
molybdenum

NAME OF PROPERTY
Gorman Lake

N.T.S. AREA 53E/2 SW

FILE NO. 290
REF. TA 1

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Herd, R.K., Currie, K.L. and Ermanovics, I.F., 1987, Island Lake, Manitoba-Ontario; Geological survey of Canada, Map 1646A (Descriptive Notes).

Manitoba Mines Branch:
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 b Corporation Files; Manitoba Mineral Resources Ltd.

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Map 4038G, Gorman Lake, (Aeromagnetic), Scale 1:63 360, Manitoba Mines Branch and Geological Survey of Canada.

Map 35553G, Island Lake, (Airborne Gamma Ray Spectrometry), Scale 1:250 000, Province of Manitoba, Province of Ontario and Geological Survey of Canada (1977).

Map 40a, Ontario-Manitoba boundary, (Geology), Scale 1:253 440 - Accompanying Report by Derry and MacKenzie (1931), Ontario Department of Mines.

#Map 26-1960, Island Lake, (Geology), Scale 1:253 440 - Accompanying Marginal Notes by Quinn (1960), Geological Survey of Canada.

Map 1646A, Island Lake, Manitoba-Ontario, (Geology), Scale 1:250 000 - Accompanying Descriptive Notes by Herd et al. (1987), Geological Survey of Canada.

REMARKS

1. Albite-rich pegmatites intruding paragneiss and greywacke were also reported in the Warrington Lake area (Derry and MacKenzie, 1931).

Comp./Rev.		CC	PA
By Date	02-61	01-74	07-88

MANITOBA ENERGY AND MINES **MINERAL INVENTORY FILE NO.** 1008

PRODUCT Lithium **N.T.S. AREA** 53K/4 NE **REF.** LI 1

NAME OF PROPERTY:
Red Sucker Lithium

OWNER OR OPERATOR AND ADDRESS
1988 - Open

OBJECT LOCATED: Island (C) **MINING DIVISION** Winnipeg

Lat. 54° 09.08' Long. 93° 38.5' UNCERTAINTY: 100 m

Sec. Tp. 60 R. 3E2

DESCRIPTION OF DEPOSIT

The description of the occurrence is from Chackowsky (1987).

The deposit consists of petalite-bearing pegmatitic leucogranite dykes that occur within a 2-3 km long geochemical anomaly in the central part of the Main series Precambrian pegmatitic granites (see Fig. 1). The pegmatitic granites occur in "an east-trending belt which may partly follow an axial shear zone in the greenstone belt" (Chackowsky and Cerny, 1984b). "In general, the Main series pegmatitic granites are silicic and peraluminous....In comparison with values for Ca-poor granites..., they are enriched in Li, Rb, Cs, Ga, Sn, Nb and Ta and depleted in Fe, Mg, Ca, Ba, Sr, Ni, Zr, Ti, V and S. Low K/Rb, K/Cs, Rb/Cs, Al/Ga, Zr/Hf and Nb/Ta ratios are also characteristic" (Chackowsky, 1987, p. 63).

"The pegmatitic leucogranite dykes range from less than 1 m in width to several tens of m and attain up to 100 m in length. Exposures are generally concordant to the schistosity of the country rocks, with sharp contacts and no chill margins. Shear banding and boudinage occur in several outcrops.....Sodic aplite occurs as narrow layers intimately associated with the pegmatitic leucogranite" (Chackowsky, 1987, p. 20). They are typically very coarse-grained to pegmatitic in grain size and are mainly composed of a graphic intergrowth of perthitic K-feldspar + quartz (up to 30 cm in size), quartz, plagioclase and subordinate muscovite. Petalite occurs at locations 1E, A, B and C. "Accessory minerals are represented by garnet, tourmaline (schorl), biotite, arsenopyrite, lollingite, chalcopyrite, molybdenite and apatite. Ta-Nb oxide minerals are rare" (Chackowsky, 1987, p. 40).

High Li, Rb, and Cs contents were reported in K-feldspars. Petalite megacrysts are locally abundant at B and C. High lithium contents of up to 2650 ppm at location A, 6050 ppm at B, and up to 6900 ppm at C, were reported in whole-rock analyses of the pegmatitic leucogranites, coinciding with the occurrence of petalite.

Associated minerals or products of value
rubidium, cesium, feldspar.

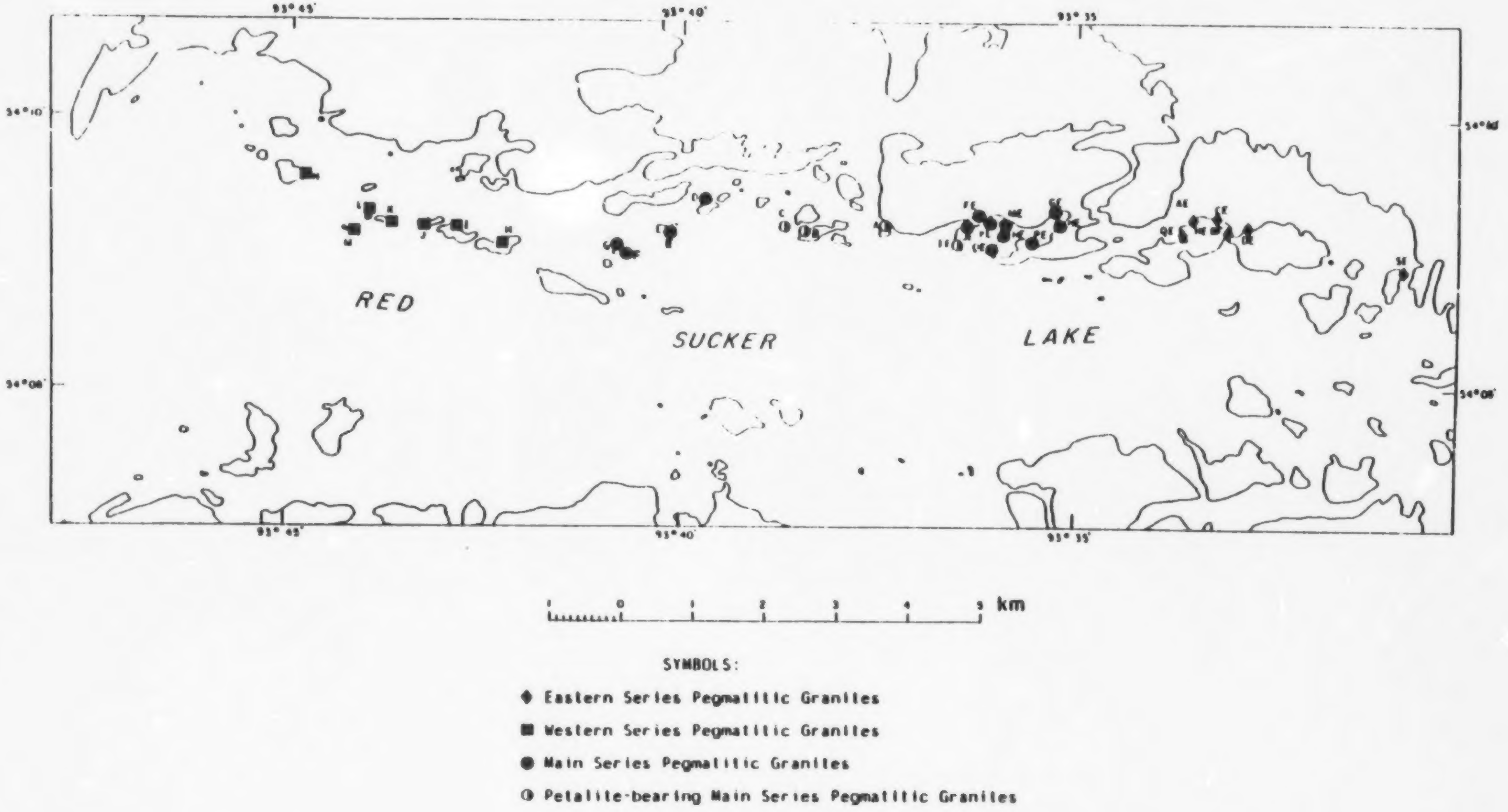
93° 45'
93° 40'
93° 35'
54°10'
54°08'
RED
SUCKER
LAKE
0
1
2
3
4
5
km
SYMBOLS:
◆ Eastern Series Pegmatitic Granites
■ Western Series Pegmatitic Granites
● Main Series Pegmatitic Granites
◑ Petalite-bearing Main Series Pegmatitic Granites

Figure 1: Distribution of pegmatitic granite sampling locations at Red Sucker Lake. Modified after Chackowsky and Černý (1984).

(source: Chackowsky, 1987:21).

DESCRIPTION OF DEPOSIT cont'd

Fine-grained Fe-rich lithian muscovite (5.72 wt% total Fe as Fe_2O_3, 1.3% Li_2O, 1.8% Rb, 0.6% Cs and 110 ppm Be in one sample) occurs at location B. Rubidium contents were as high as 4723 ppm at location D, 2800 ppm at B, 2400 ppm at C, and 1235 ppm at A. Exomorphic biotite yielding 12 800 ppm Rb, 1600 ppm Cs occurs at location C; gahnite at B, C, DE. High Mn/(Mn + Fe) ratios were reported in the garnets.

HISTORY OF EXPLORATION AND DEVELOPMENT

The islands are located just south of a narrow entrance to a large bay located in the north central part of Red Sucker Lake. It is approximately 86 km northeast of St. Theresa Point on Island Lake.

The only recorded claims in the area were the Ama group consisting of 6 claims. The claims appear only once on a 1946 Mining Claim map.

The Manitoba Government examined the area in 1973 (see: 53K/4 SN 1), and did some geological mapping in 1979-1980. In 1980, a dyke at location D (see Fig. 1) was sampled by Tantalum Mining Corporation of Canada Limited for tin and tantalum analyses.

In 1984, a study of the pegmatites and pegmatitic granites in the district was started by the Department of Earth Sciences, University of Manitoba, which included thesis work by L.E. Chackowsky, that lead to the discovery of rare-elements in the pegmatitic leucogranites (around 1985-1986). "It has no analog among other occurrences of pegmatitic leucogranite worldwide" (Chackowsky, 1987:64).

The geochemical anomaly covering 16 outcrops over 9 islands was reported in 1986. The "areal extent of the mineral finds and of the geochemical anomaly", and the high fractionation levels in the central part of the anomaly indicate a "potential for significant lithium mineralization"; however, potential reserves are not known due to insufficient data (Chackowsky, 1987).

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Wright, J.F., 1932, Oxford House area, Manitoba; Geological Survey of Canada, Summary Report 1931, Part C, p. 24.

MAP REFERENCES

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Map 3658 G, Red Sucker Lake, (Aeromagnetic), Scale 1:63 360 - Manitoba Mines Branch and Geological Survey of Canada.

Map 36153G, Stull Lake, (Airborne gamma-ray spectrometry), Scale 1:250 000, Geological Survey of Canada, Province of Manitoba, Province of Ontario (1978).

Map 94-1986, East - Central Manitoba, (Lake sediment and water geochemical survey), Scale 1:250 000; GSC Open File 1358, Geological Survey of Canada.

Map 452A, Stull Lake sheet (west half), (Geology), Scale 1:253 440 - Accompanying Marginal Notes by Downie (1938), Geological Survey of Canada.

MAP REFERENCES cont'd

Preliminary Map, Stull Lake area, (Geology), Scale 1:126 720 - Accompanying Paper by Downie (1937), Geological Survey of Canada.

*Preliminary Map 1980 K-5, Stull Lake southwest, (Geology), Scale 1:100 000, by D.C.P. Schledewitz, Manitoba Mines Branch.

#Figure GS-35-1, Location of pegmatitic granites and pegmatites, Red Sucker Lake area, Scale 1:111 111 - Accompanying Report by Chackowsky and Cerny (1984b), Manitoba Energy and Mines.

Claim Map Series NE 4, 53K, Scale 1:31 680, circa 1946, Mining Recording, Manitoba Mines Branch.

Comp./Rev.	PA
By Date	06-88

MANITOBA ENERGY AND MINES **MINERAL INVENTORY FILE NO. 358**

PRODUCT Lithium **N.T.S. AREA** 53L/14 SE **REF.** LI 1

NAME OF PROPERTY:
Lake J (McLaughlin Lake) Lithium

OWNER OR OPERATOR AND ADDRESS
1988-Open

OBJECT LOCATED Showing **Mining Division** Winnipeg

Lat. 54° 45.25' Long. 95° 11.0' UNCERTAINTY: 500 m

Sec. Tp. 66 R. 15 EPM

DESCRIPTION OF DEPOSIT

Pegmatite dykes occur in fine-grained micaceous and siliceous metasediments of the Precambrian Oxford group. On the west shore a spodumene-bearing, very coarse-grained pegmatite dyke is parallel to foliation of the metasediments. It strikes at 100° and is vertical. The dyke is about 1.6 m wide at the shore and 1.2 m (3.8 ft) at about 1 m to the west, widening to 2.2 m at 8 m (26 ft) west of the shore on the far side of an inclusion of metasediments (B. Bannatyne, Unpublished Information File). A maximum width of 2.4 m was reported by Barry (1962). The dyke pinches and swells along strike, and has apparently been traced over a length of 400 m.

It contains alkalic feldspar, quartz, and pale green muscovite, with minor amounts of fluorite, tourmaline, blue apatite, cordierite, garnet, and white micas. Traces of triphylite-lithiophilite and jarosite were found in the central parts of the dyke (Lenton, 1985). The dyke is somewhat zoned: in one south to north section, the dyke has a 1.3 cm aplite border zone, a 29 cm area of grey and white K-feldspar with quartz, a 115 cm spodumene area, a 14 cm albite-quartz zone, followed by a 1.3 cm border zone with a chilled margin (Bannatyne, 1985).

Spodumene is concentrated in the northern parts of the dyke especially in the wider sections, where it occurs as 'clusters of greenish...well-formed stubby crystals'; one 35 x 7 cm crystal was noted (Bannatyne, 1985). Lenton (1985) noted crystals that were aligned parallel to the dyke margins. The spodumene also occurs as fine-grained pale greenish-grey bladed crystals with quartz, oligoclase, and K-feldspar (Bannatyne, 1985). Gilbert (1985) reported that spodumene at McLaughlin Lake contains vermicular quartz. Spodumene is estimated to form 9% of the outcrop (Barry, 1962), averaging 3-4% (Lenton, 1985), and reaching up to 40% in some places (Bannatyne, 1985).

Another spodumene-bearing pegmatite dyke transgresses the foliation about 20 m (65 ft) west of the shore and about a metre (several feet) south of the main dyke. It is from 13 to 14 m long, and 5 to 122 cm wide.

A fine-grained, but mineralogically similar dyke, extends 9 m (30 ft) east of the eastern lakeshore, at a distance of 305 m from the western outcrop. It is up to 0.9 m (3 ft) wide.

Associated minerals or products of value

HISTORY OF EXPLORATION AND DEVELOPMENT

The deposit is located on the east and west shores of "Lake J" (as named by Barry, 1959), about 0.8 km north of the southern boundary of N.T.S. area 53L/14SE. The lake (now called McLaughlin Lake) is south of, and between, Oxford and Knee Lakes, and west of Gods Lake.

Barry (1962, p. 26) took samples for assay in 1961. A channel sample, across a 1.5 m (5 foot) width from the west shore of the lake, assayed 1.32% Li_2O. Two "respresentative" grab samples taken by him from a dyke approximately 20 m (65 ft) west of the lakeshore and south of the main dyke, assayed 2.87% and 0.98% Li_2O (ibid.).

Airborne surveys done in the area from 1955 to 1969 are shown below:

Airborne Permit	Year	Company	Survey	Non-Confidential Assessment File No.
AP13	1955	Canadian Nickel Company Limited	Aeromag	91620
AP19	1957	Canadian Nickel Company Limited	AEM	91624
AP82	1969	Keevil Mining Group Limited	Radiometric	91677

In 1971, Cin 7 (CB 3959) was staked east of the eastern shore of the lake, by George MacDonald and assigned to Canadian Nickel Company Limited. It was cancelled in 1973.

During 1971-1973, the area was mapped by the Manitoba Government. B. Bannatyne of the Manitoba Mines Branch mapped the deposit in 1973 (B. Bannatyne, Unpublished Information File). In 1977-1978, an airborne electromagnetic and aeromagnetic survey was done in the area by Questor Surveys Limited for the Manitoba Government. The survey used the Mark VI INPUT (R) system and the Geometrics G803 proton precession magnetometer (Non-confidential Assessment File No. 92205).

The area was re-examined by the Manitoba Government in 1985. In 1987, the spodumene-bearing pegmatite was sampled for spodumene, muscovite, garnet, schorl, and K-feldspar, by the University of Manitoba, Department of Geological Sciences.

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Lithium, Oxford Lake; Unpublished Information File, Manitoba Mines Branch.

Manitoba Mines Branch:
a Non-confidential Assessment Files; File Nos. 91620, 91624, 91677, 92205.
b Unpublished Information Files.

Meintzer, R.E., Cerny, P. and Penner, P., 1987, Granite and pegmatites at Magill Lake, Manitoba; Manitoba Energy and Mines, Minerals Division, Report of Field Activities, 1987, p. 142, 144.

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NAME OF PROPERTY Lake J Lithium	**N.T.S. AREA** 53L/14 SE	**FILE NO.** 358 **REF.** LI 1

MAP REFERENCES

Map 53L, Oxford House, (Topographic), Scale 1:250 000, Surveys and Mapping Branch, Ottawa.

*Map 4046G, Oxford House, (Aeromagnetic), Scale 1:63 360, Manitoba Mines Branch and Geological Survey of Canada.

Map 36253G, Oxford House, (Airborne Gamma Ray Spectrometry), Scale 1:250 000, Province of Manitoba and Geological Survey of Canada (1978).

Map 94-1986, East-Central Manitoba, (Lake sediment and water geochemical survey), Scale 1:250 000; GSC Open File 1358, Geological Survey of Canada (1986).

#Map 58-3A, Oxford House area, (Geology), Scale 1:63 360 - Accompanying Report by Barry (1959), Manitoba Mines Branch.

Map 21-1961, Oxford House, (Geology), Scale 1:253 440 - Accompanying Marginal Notes by Currie (1961), Geological Survey of Canada.

Map 1973 H-4, Oxford House, (Geology), Scale 1:31 680 - Accompanying Marginal Notes by Hubregtse and Gilbert (1973), Manitoba Mines Branch.

Map GR83-1-6, Oxford House, (Geology), Scale 1:50 000 - Accompanying Report by Gilbert (1985), Manitoba Energy and Mines.

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REMARKS

Barry (1959, p. 25) gives the location of a lithium deposit as 'lat. 54° 45'30", long. 95° 12'30"' in his text. That is the deposit described; however map symbol 10 on Map 58-3A was taken as the object located. The deposit occurs on both shores (east and west) of the lake.

Comp./Rev.		SMH	PA
By Date	02-68	08-74	07-88

MANITOBA ENERGY AND MINES **MINERAL INVENTORY FILE NO.** 87

PRODUCT Tin **N.T.S. AREA** 53K/4 NE **REF.** SN 1

NAME OF PROPERTY:
Tin Bar Nos. 6, 7

OWNER OR OPERATOR AND ADDRESS
1988 -Tantalum Mining Corporation
of Canada Limited
Bernic Lake, Manitoba
R0E 0G0

OBJECT LOCATED: Sn showing **MINING DIVISION** Winnipeg

Lat. 54° 09.73' Long. 93° 42.25' UNCERTAINTY: 500 m

Sec. Tp. 60 R. 3E2

DESCRIPTION OF DEPOSIT

"The four pegmatites of the Western Series intrude metabasalts of the Hayes River Group. They include a Li-rich pegmatite at SQ, a saccharoidal albite-rich cassiterite-bearing dyke at TD, a beryl-bearing pegmatite at BL, and a narrow microlite-bearing pegmatite at PK" (Chackowsky, 1987, p. 71). See Figure 1. Samples of microcline from the four pegmatites were reported to be enriched in Li, Rb, and Cs (see Table 1, Table 2).

The tin deposit is on the shore of Red Sucker Lake and may extend northward under the lake. It is located in albitite dykes in Precambrian granitic or andesitic rocks. The area is roughly triangular, about 7.6 x 6 x 5 m (25 x 20 x 15 ft). Cassiterite, quartz, and muscovite are sparingly found in friable albite. "The cassiterite grains occur mainly in clusters near the vertical contact of the aplite with metavolcanics" (Bannatyne, 1973).

Another report (dated 1942) states: "Claims have been staked about three small dykes of albite aplite. The dimensions of the dykes where exposed were given as 20 feet x 6 feet (6 x 2 m), 8 feet x 1 foot (2.4 x 0.3 m), and a pipe-like mass 3 feet (0.9 m) in diameter. The tin occurrence was confined to two narrow bands 3 to 5 inches (8 to 13 cm) in width in one of the dykes. Crystals of cassiterite up to 1/8 inch (0.3 cm) in size were sparingly distributed......Samples taken where cassiterite showed in the dyke yielded .56 and .38 per cent cassiterite" (in Bannatyne, 1985, p. 85). Tin was also noted on an adjacent claim (see Remarks).

Topaz, indicolite, (Bateman, 1943, p. 278), small red garnets in clusters, blue apatite grains (up to 6 mm across), (Bannatyne, 1985), fluorite as late fracture-fillings (Chackowsky and Cerny, 1984a), tourmaline (dravite, schorl), orange garnet and scandium (Chackowsky, 1987, p. 96, 100) are also known to occur. A sample of exomorphic biotite from the TD pegmatite returned contents of 2.38 wt% Rb_2O (21 800 ppm Rb), 0.19% Cs_2O (1760 ppm Cs), and 1.72% Li_2O (7990 ppm Li) (Chackowsky, 1987, p. 94, 95).

Associated minerals or products of value
rubidium, cesium, lithium, tantalum, niobium, beryllium
feldspar (apatite, fluorite).

DESCRIPTION OF DEPOSIT cont'd

"The SQ dyke is exposed on a vertical face, 7 m wide by 5 m high....The dyke dips approximately 80° to the north and appears to be concordant to the dip of the schistosity of the basalt...It is the most fractionated pegmatite in the Red Sucker Lake field" (Chackowsky, 1987, p. 71, 144). It consists of abundant blocky K-feldspar (up to 75 cm), quartz, platy muscovite, and accessory tourmaline (verdelite), massive fine grained lithian muscovite and spodumene + quartz intergrowth (pseudomorphic after petalite) (Chackowsky, 1987, p. 76, 78). It also contains tantalum. Analyses of fine-flaked lithian muscovite samples averaged 3.40% Li_2O, 2.90% Rb_2O (26 500 ppm) and 0.50% Cs_2O (4700 ppm) (Chackowsky, 1987, p. 93).

The beryl-bearing pegmatite is described as "an inconspicuous biotite + muscovite-bearing dyke carrying dirty yellow-green subhedral crystals of beryl" (Chackowsky and Cerny, 1984a). A partial chemical analysis of one beryl sample from the BL pegmatite returned contents of 2010 ppm Li, 240 ppm Rb, 1100 ppm Cs (Chackowsky, 1987, p. 96). The dyke also contains apatite (Chackowsky, 1987, p. 99).

The PK pegmatite is 5 to 20 cm wide and exposed for 4 m along strike. "It strikes N-S and dips steeply to the west, discordant to and deforming the metabasalts" (Chackowsky, 1987, p. 71). "It has symmetrical textural and mineralogical zoning". Two main zones have been described: a 1-2 cm thick fine grained outer wall consisting of quartz, schorl, and K-feldspar laths that are perpendicular to the contact; and a 5-20 cm thick coarser inner zone containing abundant graphic K-feldspar + quartz intergrowth, blocky K-feldspar, quartz and plagioclase, subordinate schorl, and rare microlite (Chackowsky, 1987, p. 76, 77). Verdelite and accessory arsenopyrite and löllingite also occur. A microprobe analysis of microlite returned contents (in wt%) of 48.8% Ta_2O_5, 13.6% Sb_2O_3, 15.0% CaO, 8.4% Nb_2O_5, 8.0% SnO, 3.3% TiO_2, (total 97.1%) (Chackowsky, 1987, p. 100).

'Department of Earth Sciences, University of Manitoba.

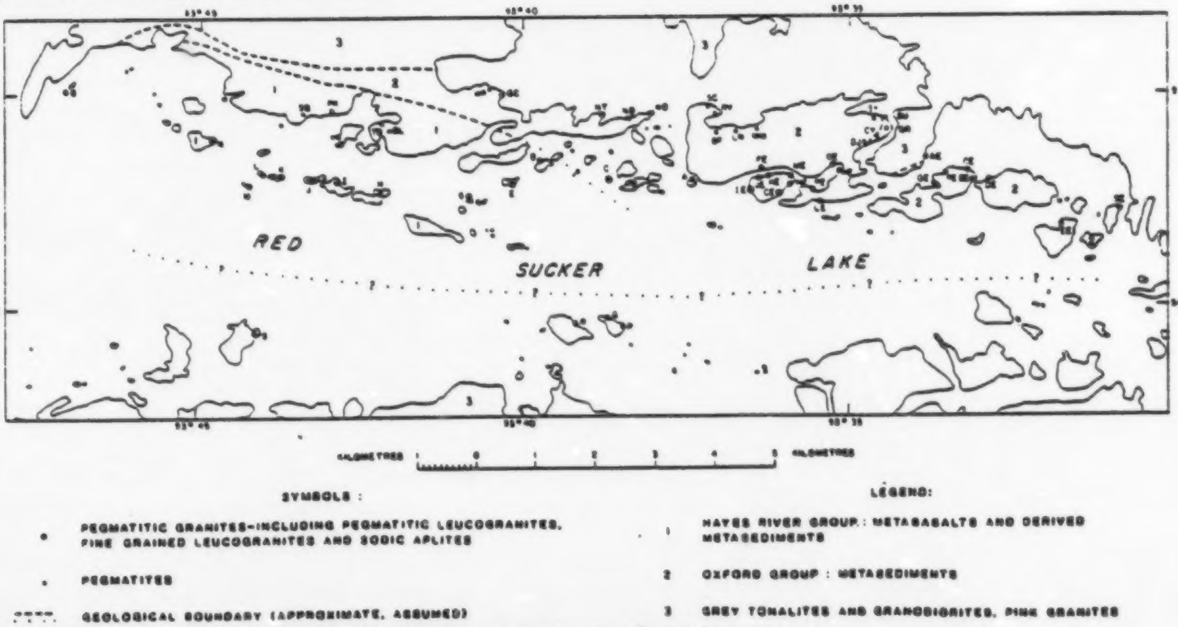
RED
SUCKER
LAKE
1
2
3
KILOMETRES 1 0 1 2 3 4 5 KILOMETRES
SYMBOLS :
● PEGMATITIC GRANITES-INCLUDING PEGMATITIC LEUCOGRANITES, FINE GRAINED LEUCOGRANITES AND SODIC APLITES
• PEGMATITES
GEOLOGICAL BOUNDARY (APPROXIMATE, ASSUMED)
LEGEND:
1 HAYES RIVER GROUP : METABASALTS AND DERIVED METASEDIMENTS
2 OXFORD GROUP : METASEDIMENTS
3 GREY TONALITES AND GRANODIORITES, PINK GRANITES

Figure 1: Location of pegmatitic granites and pegmatites, Red Sucker Lake area.

(source: Chackowsky and Cerny, 1984b:133).

HISTORY OF EXPLORATION AND DEVELOPMENT

The property is located on the north shore of central Red Sucker Lake, approximately 64.4 km southeast of God's Lake Gold Mine.

Cassiterite was discovered at Red Sucker Lake by Gordon Raehill, Herb Cowan and T. Wass in 1928. Claims were not staked until much later:

Year	Claim Name	Claim Number	Staker
1941	Tin Bar Nos. 6-7	W 10289-90	H.S. Cowan

In 1941 Wright-Hargreaves Mines, Limited examined several claims of the Tin Bar group. Blasting was done on Tin Bar Nos. 6 and 7. Assays taken in 1941 on these claims ranged from 0.38% to 3.55% tin. Other companies may have examined the property, before it was assigned to W.T. Gwyn in 1942.

God's Lake Gold Mines Limited took an unregistered option on the showings in 1943 and x-ray diamond drilled about 910 m (3000 ft). Some, but not all drilling was done on Tin Bar Nos. 6 and 7. Tin was noted as "not uncommon" but also not in commercial quantities (God's Lake Gold Mines Limited, Corporation File). An assay of 0.42% tin (Bateman, 1943) may have come from these claims. Tin Bar Nos. 6 and 7 were cancelled in 1944.

Year	Claim Name	Claim Number	Staker
1956	York Nos. 2, 6	W 24804, 08	D.A. McLeod

- cancelled in 1958.

The Manitoba Government examined the area in 1973, and did some geological mapping in 1979 - 1980. Bannatyne (1973) located the cassiterite dyke but could not confirm earlier reports of a trenched pegmatite containing lithium minerals (see Remarks).

The area was restaked as Sucker 5 (CB 11684) comprising 259 ha, by S. Smith and L. Hansen in 1980, on behalf of Tantalum Mining Corporation of Canada Limited, which is owned by Hudson Bay Mining and Smelting Co., Limited (37.5%), Kawecki Berylco Industries (37.5%) and the Manitoba Government (25%). Adjacent ground (259 ha) which included the SQ pegmatite area was staked as Sucker 6 (CB 11982).

In 1980, the TD, PK, SQ dykes were sampled and assayed for tin and tantalum (P. Cerny collected a beryl-bearing sample that year), and assay results led to a diamond-drill study of the SQ dyke in 1981. The occurrence of spodumene in the area was confirmed that year (D. Trueman in Bannatyne, 1985).

The Department of Earth Sciences, University of Manitoba have been studying pegmatites in the area since 1984, leading to the discovery of Li-, Rb-, Cs-enriched mineral species in the four main pegmatites, and in other pegmatites in the region (see: 53K/4 LI 1). A mineralogical study of pegmatites in the region was completed by L.E. Chackowsky in 1987. Some of the results of the study are shown in Table 1 and 2.

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

Table 1. Analyses of microcline samples from the TD, BL, SQ, PK pegmatites (source: Chackowsky, 1987, p. 81-82).

Pegmatite	Li	Rb	Cs	Sr	Ba	Pb
TD	97	9800	326	-	-	-
BL	290	11400	455	-	14	16
SQ	89-139	18800	1250	157	-	89
PK	50	13800	1180	75	325	-

-all values are in ppm.

Table 2. Partial analyses of book muscovite samples from the SQ dyke (source: Chackowsky, 1987, p. 92).

		Western Series		
Sample	SQ-3	SQ-9	SQ-22	SQ-25
wt%:				
TiO_2	0.07	0.10	0.11	0.09
TFe_2O_3	2.63	2.67	2.73	2.67
MnO	0.94	0.92	0.98	0.95
MgO	1.48	1.56	1.10	1.53
CaO	0.02	0.03	0.03	0.02
Na_2O	0.46	0.53	0.46	0.39
K_2O	9.12	9.00	9.03	9.02
Li_2O	1.98	2.02	1.64	2.02
ppm:				
Rb	19800	19400	20300	19300
Cs	1930	1810	1660	1950
Be	15	16	15	20
K/Rb	3.82	3.85	3.69	3.88
K/Cs	39.3	41.2	45.2	38.4
Rb/Cs	10.3	10.7	12.2	9.90

TFe_2O_3 = total Fe calculated as Fe_2O_3

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REFERENCES cont'd

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Downie, D.L., 1937, Stull (Mink) Lake area, Manitoba; Geological Survey of Canada, Paper 37-7, 27p.

Downie, D.L., 1938, Stull Lake sheet (west half), Manitoba and Ontario (Marginal Notes); Geological Survey of Canada.

Lang, A.H., 1948, Review of tin prospecting possibilities in Canada; Transactions of the Canadian Institute of Mining and Metallurgy, v. 51, p. 219.

Manitoba Mines Branch:
a Annual Report on Mines and Minerals; 15th - p. 40.
b Corporation Files; God's Lake Gold Mines Limited.
c Unpublished Information Files; 53K.

Schledewitz, D.C.P. and Kusmirski, R., 1979, Bolton Lake - Red Sucker Lake; in Manitoba Department of Mines, Natural Resources and Environment, Mineral Resources Division, Report of Field Activities, 1979, p. 32, 36.

Wright, J.F., 1928, Island Lake area, Manitoba; Geological Survey of Canada, Summary Report 1927, Part B, p. 54-80.

REFERENCES cont'd

Wright, J.F., 1932, Oxford House area, Manitoba; Geological Survey of Canada, Summary Report 1931, Part C, p. 24.

MAP REFERENCES

Map 53K, Stull Lake, (Topographic), Scale 1:50 000 - Mines and Technical Surveys, Canada.

*Map 3658 G, Red Sucker Lake, (Aeromagnetic), Scale 1:63 360 - Manitoba Mines Branch and Geological Survey of Canada.

Map 36153G, Stull Lake, (Airborne gamma-ray spectrometry), Scale 1:250 000, Geological Survey of Canada, Province of Manitoba, Province of Ontario (1978).

Map 94-1986, East - Central Manitoba, (Lake sediment and water geochemical survey), Scale 1:250 000; GSC Open File 1338, Geological Survey of Canada.

Map 452A, Stull Lake sheet (west half), (Geology), Scale 1:253 440 - Accompanying Marginal Notes by Downie (1938), Geological Survey of Canada.

Preliminary Map, Stull Lake area, (Geology), Scale 1:126 720 - Accompanying Paper by Downie (1937), Geological Survey of Canada.

Preliminary Map 1980 K-5, Stull Lake southwest, (Geology), Scale 1:100 000, by D.C.P. Schledewitz, Manitoba Mines Branch.

Claim Map Series NE 4, 53K, Scale 1:31 680, circa 1944, 1958, Mining Recording, Manitoba Mines Branch.

REMARKS

1. The deposit described was examined by a Mines Branch geologist (B. Bannatyne, pers. comm., 1974). Other tin showings are reported, probably on other Tin Bar claims (Unpublished Information File, Manitoba Mines Branch); e.g. an occurrence on an "adjacent claim", with exposed dimensions of 26 m by 12 m (85 x 40 ft) returned an average content of only a trace of tin in eleven channel samples (Bateman, 1943). Tin assays of up to 0.75%, gold assays from 0.15 oz to \$560 oz/ton are reported (Ibid.) The location of the assay samples and of lithium-bearing pegmatite dykes (Ibid.) are unknown.

2. Earlier reports also include the following occurrences: "A vein with visible gold....near the main aplite dyke"; "lepidolite, spodumene, and amblygonite in a matrix of quartz, muscovite, tourmaline (black and green) and apatite"; and a pegmatite "trenched over a width of 16 m to a depth less than 0.3 m.....(with) a few bands of lithium minerals ("Either amblygonite or spodumene or both") along the footwall side" (see Bannatyne, 1985).

NAME OF PROPERTY | | **FILE NO.** 87
Tin Bar Nos. 6, 7 | **N.T.S. AREA** 53K/4 NE | **REF.** SN 1

REMARKS cont'd

3. Previous claims over the PK dyke include Juno 2 (W 5758) which was held by T. Wass in 1935-1936; Tin Bar (W 10283) in 1941; and York 17 (W 24819) in 1956. The TD, BL, PK pegmatites occur on the old Tin Bar group of claims (1941-1944), and on the York group (1956-1958). The SQ pegmatite occurs on the Tin group as well.

Comp./Rev.		CC	SMH	PA
By Date	02-68	06-74	11-74	06-88

PRODUCT Lithium	**N.T.S. AREA** 53N/2 SW	**REF.** LI 1

NAME OF PROPERTY:
Red

OWNER OR OPERATOR AND ADDRESS
1988 - 62609 Manitoba Corporation
136 Ceder Street South
Timmins, Ontario
P4N 7W8

OBJECT LOCATED Showing **Mining Division** Winnipeg

Lat. 55° 06.95'	Long. 92° 58.4'	UNCERTAINTY: 250 m
Sec.	Tp. 71	R. 7E2

DESCRIPTION OF DEPOSIT

Three dykes intrude basic volcanic rocks of the Precambrian Oxford Group.

The dykes contain quartz, K-feldspar, sodic plagioclase, and spodumene. Although the dykes are about 1 m wide the spodumene averages less than 2 mm in size. Due to deformation within the dykes, the spodumene is generally very fine grained. A few grains of beryl were also identified, but mica is virtually absent (Jambor and Potter, 1967).

HISTORY OF EXPLORATION AND DEVELOPMENT

The pegmatites occur on the southeast shore of a small lake 0.8 km north of a long sandy point at the northwest end of Red Cross Lake.

In 1955 various people staked Red Nos. 459-608 (W 23822-965, 23711-716) over the deposit. The claims were immediately assigned to Canadian Nickel Company Limited, and an aeromagnetic survey was done (Non-confidential Assessment File No. 91620). The claims were cancelled in 1958.

In 1961, the Red group of claims (Red Nos. 19-36, W 34148-65) were staked by C.G. Macleod and assigned immediately to New Jersey Zinc Exploration Company (Canada) Ltd. (a subsidiary of The New Jersey Zinc Co. of New York). The deposit occurs in the Red Nos. 22, 23, 26, 27 claim areas. The claims were cancelled in 1962.

A grab sample was taken from the deposit by Potter (1962). Whole rock analysis of the sample indicated 2.97% Li_2O (Jambor and Potter, 1967).

In 1969, Keevil Mining Group Limited did a radiometric survey in the area under Airborne Permit No. 82 (Non-confidential Assessment File No. 91677). Barringer Research Limited apparently did lake and stream sediment geochemical surveys that year (Non-confidential Assessment File No. 91808).

Associated minerals or products of value

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

Exploration Reservation 105, area 26 289 ha, was issued to Magenta Explorations Limited in 1971. The company is an Ontario company that is 100% owned by Barringer Research Limited (a subsidiary of Barringer Research Inc.) and Omar Explorations Inc. (a subsidiary of TRW Inc. of Los Angeles). Barringer Research Limited carried out geological, geochemical (rock, lake and stream sediment sampling), and geophysical (5 km VLEM, 7 km VLF EM-16, 12 km ground MAG, 3 km gravity) surveys in the area in 1971. The rock sampling program found high arsenic values in all rock types (Non-confidential Assessment File No. 91808).

In 1972, CB 4224 was staked by Lyle Borgstrom and assigned to Magenta Explorations Limited soon after. In 1973, Jorex Limited had an option to acquire 51% of Magenta Explorations Limited. Exploration Reservation 105 and CB 4224 were cancelled in 1973 and 1974, respectively.

In 1980, CB 11682 (Sucker 3), area 259 ha, was staked by S. Smith (assisted by H. Nilsson and L. Hansen) for Tantalum Mining Corporation of Canada Limited, which is owned by Hudson Bay Mining and Smelting Co., Limited (37.5%), Kawecki Berylco Industries (37.5%) and the Manitoba Government (25%). The claim lapsed in 1982.

In 1983, Mag 7 (W 48483), area 220 ha, was staked by Dan Boyd (assisted by Marius Harper and Paul Lawrence) for 62609 Manitoba Corporation. The area was visited by staff of the University of Manitoba, Department of Earth Sciences, in 1985: the three dykes could not be located possibly due to high water levels; however, whole rock and mineral samples were collected from a 5 m wide dyke (Chackowsky et al., 1985).

REFERENCES

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Jambor, J.L. and Potter, R.R., 1967, Rubidium-bearing dykes, Gods River area, Manitoba; Geological Survey of Canada, Paper 67-15, p. 4, 6.

NAME OF PROPERTY Red | **N.T.S. AREA** 53N/2 SW | **FILE NO.** 69 **REF.** LI 1

REFERENCES cont'd

Manitoba Mines Branch:
- a Non-confidential Assessment Files; File Nos. 91620, 91677, +91808.
- b Corporation Files; Barringer Research Limited.

Potter, R.R., 1962, Gods River map-area, Manitoba; Geological Survey of Canada, Paper 62-8, p. 10.

Wang, X.J., Eby, R., Cerny, P. and Brisbin, W.C., 1986, Leucogranites and pegmatites at Red Cross Lake, Manitoba; in Centre for Precambrian Studies; University of Manitoba, Annual Report 1986, p. 28.

MAP REFERENCES

Map 53N, Gods River, (Topographic), Scale 1:250 000, Surveys and Mapping Branch, Ottawa.

*Map 2643G, Red Cross Lake, (Aeromagnetic), Scale 1:63 360, Manitoba Mines Branch and Geological Survey of Canada.

Map 36453G, Gods River, (Airborne Gamma Ray Spectrometry), Scale 1:250 000, Province of Manitoba, Province of Ontario, and Geological Survey of Canada (1977).

#Map 17-1962, Gods River, (Geology), Scale 1:253 440 - Accompanying Report by Potter (1962), Geological Survey of Canada.

Claim Map Series 53N/2 SW, Scale 1:31 680, circa 1964, Mining Recording, Manitoba Mines Branch.

Comp./Rev.	CC	PA
By Date	06-74	07-88

MANITOBA ENERGY AND MINES **MINERAL INVENTORY FILE NO.** 70

PRODUCT Lithium **N.T.S. AREA** 53N/2 SW **REF.** LI 2

NAME OF PROPERTY:
Red Cross Lake Lithium-Rubidium

OWNER OR OPERATOR AND ADDRESS
1988 - Tantalum Mining Corporation
of Canada Limited
P.O. Box 2000
Lac du Bonnet, Manitoba
ROE 1A0

OBJECT LOCATED Dyke **Mining Division** Winnipeg

Lat. 55° 05.33' Long. 92° 48.00' UNCERTAINTY: 200 m

Sec. Tp. 70 R. 9E2

DESCRIPTION OF DEPOSIT

Lithium and rubidium occur in micas in at least 17 conformable, parallel quartz-feldspar dykes which extend for a maximum of 15 m (50 ft) before disappearing beneath drift on one end and Red Cross Lake on the other. The dykes strike at 295°, dipping at 35° - 76° W through basic volcanic rocks. Some dykes are offset by north-south faults with right lateral displacement. The dykes range from a few centimetres (inches) wide to 3.6 m (12 ft).

Purple rubidium-rich lepidolite forms 3 mm - 6 mm (1/8" - 1/4") bands in the pegmatite, which also contains amblygonite, pollucite, beryl and tourmaline. Spodumene, schorl to rubellite, manganotantalite, wodginite, and microlite have also been reported (Wang et al., 1986a). A sample of microcline was found to be enriched in rubidium and cesium (Cerny et al., 1984).

According to Bannatyne (1985), "The dykes were formed from intrusions that have reached a high level of chemical fractionation, and were subsequently subjected to strong shearing stress.".

HISTORY OF EXPLORATION AND DEVELOPMENT

The deposit is located 2286 m west-northwest of the outlet of Red Cross Lake into Red Sucker River, almost 322 km east of the railway at Sipiwesk.

An aeromagnetic survey was done in the area by Canadian Nickel Company Limited in 1955 under Airborne Permit No. 13 (Non-confidential Assessment File No. 91620).

R.R. Potter, a geologist with the Geological Survey of Canada, sampled the deposit in 1961. An analysis of 15% 'Rb' was reported (Potter, 1962, p. 10). This seems unusually high considering the following results.

Associated minerals or products of value
rubidium, cesium, tantalum.

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

Whole rock analyses of 5 samples averaged greater than 1% each for Li_2O and Rb_2O. The maximums were 2.10% Li_2O and 1.29% Rb_2O. The Cs_2O content of a sample from the margins of the largest dyke yielded the unusually high figure of 2.86%. An analysis of muscovite - lepidolite concentrate found 3.08% Li_2O, 4.53% Rb_2O, 1.00% Cs_2O (Jambor and Potter, 1967, p. 4, 5). A semi-quantitative spectrographic analysis by W.F. White indicated: 0.33% B, 0.0024% Be, 0.11% Ca, 0.026% Sn, 0.0069% Cu, 0.051% Sr, and less than 0.002% Ba (Jambor and Potter, 1967).

A radiometric survey was done in the area by Keevil Mining Group Limited in 1969 under Airborne Permit No. 82 (Non-confidential Assessment File No. 91677).

Reservation 105 was taken out in 1971 by Magenta Explorations Limited. Though the deposit was not covered by this disposition, it was mapped and described by V. Sopuck (Non-confidential Assessment File No. 91808). CB 3995 was staked in 1972 by M.P. Henrick and assigned to Magenta Explorations Limited soon after. Magenta Explorations Limited was owned by Omar Explorations Inc. and Barringer Research Limited.

A field party from the Manitoba Mines Branch visited the deposit in 1973 and found that trenches had been blasted within the past few years (Bannatyne, Personal Communication, 1976). B. Bannatyne sampled the four largest dykes that year. A discovery of pollucite grains in one of the dykes was made by J. Macek and L. Solkoski in 1974. The claim block was cancelled that year.

In 1980, H. Nilsson (assisted by S. Smith and L. Hansen) staked CB 11680 (Sucker 1), area 259 ha, for Tantalum Mining Corporation of Canada Limited which is owned by Hudson Bay Mining and Smelting Co., Limited (37.5%), Kawecki Berylco Industries (37.5%) and the Manitoba Government (25%).

Large whole rock samples were collected in 1985 by the University of Manitoba, Department of Earth Sciences, for mineralogical studies. In 1987, the claim was grouped with CB 11681 (Sucker 2) which lies immediately north of this area.

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+Cerny, P., Pentinghaus, H., Kernforschungszentrum, K. and Macek, J.J., 1984, Rubidium microcline from Red Cross Lake, northeastern Manitoba; in Centre for Precambrian Studies; University of Manitoba, Annual Report 1984, p. 95-96.

Cerny, P., Pentinghaus, H. and Macek, J.J., 1985, Rubidium microcline from Red Cross Lake, northeastern Manitoba; Geological Society of Finland, Bulletin No. 57, p. 217-230.

Chackowsky, L.E., Wang, X., Eby, R. and Cerny, P., 1985, Pegmatitic granites, pegmatites and other felsic plutonic rocks at Gods Lake and Red Cross Lake, Manitoba; Manitoba Energy and Mines, Geological Services, Mines Branch, Report of Field Activities, 1985, p. 209-211.

+Jambor, J.L. and Potter, R.R., 1967, Rubidium-bearing dykes, Gods River area, Manitoba; Geological Survey of Canada, Paper 67-15, p. 1-5.

Manitoba Mines Branch:
a Non-confidential Assessment Files; File Nos. 91620, 91677, +91808.
b Corporation Files; Barringer Research Limited.

+Potter, R.R., 1962, Gods River map-area, Manitoba; Geological Survey of Canada, Paper 62-8, p. 10.

Wang, X.J., Cerny, P., Chackowsky, L.E. and Eby, R., 1986a, Evolution of K-feldspar in the Red Cross Lake pegmatitic granite and its pegmatite aureole, northeastern Manitoba, Canada; Abstract presented at the International Mineralogical Association Meeting, 1986 Stanford, Connecticut.

Wang, X.J., Eby, R., Cerny, P. and Brisbin, W.C., 1986b, Leucogranites and pegmatites at Red Cross Lake, Manitoba; in Centre for Precambrian Studies; University of Manitoba, Annual Report 1986, p. 27-29.

MAP REFERENCES

Map 53N, Gods River, (Topographic), Scale 1:250 000, Surveys and Mapping Branch, Ottawa.

*Map 2643G, Red Cross Lake, (Aeromagnetic), Scale 1:63 360, Manitoba Mines Branch and Geological Survey of Canada.

Map 36453G, Gods River, (Airborne Gamma Ray Spectrometry), Scale 1:250 000, Province of Manitoba, Province of Ontario, and Geological Survey of Canada (1977).

MAP REFERENCES cont'd

Map 17-1962, Gods River, (Geology), Scale 1:253 440 - Accompanying Report by Potter (1962), Geological Survey of Canada.

Claim Map Series 53N/2 SW, Scale 1:31 680, circa 1973, Mining Recording, Manitoba Mines Branch.

REMARKS

1. Location was taken from an unpublished figure by B. Bannatyne.
2. Other pegmatites occur near the outlet of Red Sucker River.
3. Columbite was reported south of Gods River, in dark blue tourmaline-bearing pegmatites (Jambor and Potter, 1967).

Comp./Rev.		CC	SMH	PA
By Date	02-68	06-74	01-76	07-88

MANITOBA ENERGY AND MINES **MINERAL INVENTORY FILE NO.** 417

PRODUCT Lithium **N.T.S. AREA** 63 I/12 SW **REF.** LI 1

NAME OF PROPERTY:
Liz Lithium

OWNER OR OPERATOR AND ADDRESS
1988 - Tantalum Mining Corporation
of Canada Limited
P.O. Box 2000
Lac du Bonnet, Manitoba
ROE 1AO

OBJECT LOCATED Showing **Mining Division** The Pas

Lat. 54° 34.59' Long. 97° 49.70' UNCERTAINTY: 200 m

Sec. Tp. 64 R. 3 WPM

DESCRIPTION OF DEPOSIT

Two parallel zoned pegmatite dykes strike at 075° across Precambrian greywacke and conglomerate of the Cross Lake Group. The dykes extend for 324 and 210 cm before being covered by overburden to the east. Dips vary from 45°N to 70°N (Bannatyne, personal communication). The dykes apparently continue downslope and join to form a narrow dyke that pinches out to the west.

Spodumene, beryl, and a few grains of beryl occur with feldspar (coarse perthite, fine-grained cleavelandite), muscovite, tourmaline, apatite and quartz. The latter is found interstitially within the spodumene crystals that are pale greenish-white in colour and 1 to 20 cm in length. Rousell (1965, p. 56) reported that the mica, which is greenish, may contain lithium. Minor uraninite, tantalite, cassiterite, and pink garnet were also reported. Tourmaline is abundant in the wall-rocks along the pegmatite contact.

The second parallel dyke, 11 m north of the main dyke, contains "patches with numerous white beryl crystals about 12 to 25 mm across" (Bannatyne, 1985).

Seven other small and irregular spodumene-bearing dykes occur in the vicinity. These dykes are part of a southern east-west belt ('Southern Series') of pegmatites that contains Li, Ta-Nb, and minor Be mineralization and that is more fractionated towards the east.

HISTORY OF EXPLORATION AND DEVELOPMENT

The showing is located on the south shore of Metis Island in Cross Lake, approximately 3.2 km southwest of the intersection of the lake and the boundary between Indian Reservations 19B and 19C. It is just south of Cross Island.

Canadian Nickel Company Limited did an aeromagnetic and an airborne electromagnetic survey in the area in 1955 and 1957, respectively (Non-confidential Assessment File Nos. 91620, 91624).

Associated minerals or products of value
beryl, tantalum, niobium, tin.

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

Year	Claim Name	Claim Number	Staker
1958	Liz No. 29	P 73128	F. Lisitza

Spodumene and beryl were reported in the area around 1960 (J.F. Davies, in Mulligan, 1968). Bell (1962, p. 21) states "The spodumene does not appear to be present in commercial quantities". Trenching was done before cancellation in 1966.

Year	Claim Name	Claim Number	Staker
1969	CB 320 - cancelled in 1971.		A.T. Jacobson

In 1974, L. Solkoski (Manitoba Government) identified tantalite (by X-ray methods) in a sample from the main dyke, and examined the dykes in 1977. In 1979, Tantalum Mining Corporation of Canada Limited (Tanco) discovered Ta-Nb oxide mineralization in pegmatites in the Cross Lake area, leading to a more detailed study of the pegmatite field. The company is owned by Hudson Bay Mining and Smelting Co., Limited (37.5%), Kawecki Berylco Industries (37.5%) and the Manitoba Government (25%).

Tanco staked CB 12117 comprising 259 ha in 1980, and financed a sampling program by P. Cerny and a thesis study by A.J. Anderson of the Department of Earth Sciences, University of Manitoba, in 1981 and 1982. In 1983, the Manitoba Government began a detailed mapping program in the area, and began studying the pegmatites jointly with the University of Manitoba under a 1983-1985 Federal-Provincial Interim Mineral Agreement. Additional sampling was carried out that year. Tanco has also apparently drilled the pegmatites (Bannatyne, 1985).

These programs have resulted in the discovery of about 90 other pegmatites in the Cross Lake region, which occur in two major belts consisting of a southern spodumene pegmatite area and a northern beryl-columbite mineralized area (see Remarks).

REFERENCES

Anderson, A.J., 1984, The geochemistry, mineralogy and petrology of the Cross Lake pegmatite field, central Manitoba; M. Sc. Thesis, University of Manitoba, 250p.

+Anderson, A.J. and Cerny, P., 1982, Leucogranites and pegmatites in the Cross Lake area, Manitoba; in Centre for Precambrian Studies; University of Manitoba, Annual Report 1982, p. 100-108.

+Anderson, A.J. and Cerny, P., 1984, Leucogranites and pegmatites in the Cross Lake area, Manitoba; in Centre for Precambrian Studies; University of Manitoba, Annual Report 1984, p. 67-79.

Bannatyne, B.B., 1973, Pegmatite project; in Summary of Geological Field Work 1973; Manitoba Department of Mines, Resources and Environmental Management, Mines Branch, Geological Paper 2/73, p. 29-30, 32.

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Bannatyne, B.B., 1975 (March 4), Personal Communication; Manitoba Mineral Resources Division.

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Bell, C.K., 1962, Cross Lake map area; Geological Survey of Canada, Paper 61-22, p. 21.

Corkery, M.T., 1983, Cross Lake supracrustal investigation; Manitoba Department of Energy and Mines, Mineral Resources Division, Report of Field Activities, 1983, p. 32-45.

Lenton, P.G. and Anderson, A.J., 1983, Granite-pegmatite investigation, Cross Lake; Manitoba Department of Energy and Mines, Mineral Resources Division, Report of Field Activities, 1983, p. 46-50.

Manitoba Mines Branch:
a Non-confidential Assessment Files; File Nos. 91620, 91624.

Mulligan, R., 1965, Geology of Canadian lithium deposits; Geological Survey of Canada, Economic Geology Report No. 21, p. 83.

Mulligan, R., 1968, Geology of Canadian beryllium deposits; Geological Survey of Canada, Economic Geology Report No. 23, p. 71.

Phillips, K.A., 1978, Minerals of Manitoba, Volume 1: Non-metallic and pegmatitic; Manitoba Department of Mines, Resources and Environmental Management, Mineral Resources Division, MRD Educational Series 78/1, p. 75.

+Rousell, D.H., 1965, Geology of the Cross Lake area; Manitoba Mines Branch, Publication 62-4, p. 56.

MAP REFERENCES

*Map 63I/12 W, Cross Lake west, (Topographic), Scale 1:50 000, Surveys and Mapping Branch, Ottawa.

Map 2597G, Cross Lake, (Aeromagnetic), Scale 1:63 360, Manitoba Mines Branch and Geological Survey of Canada.

Map 35963G, Cross Lake, (Airborne Gamma Ray Spectrometry), Scale 1:250 000, Province of Manitoba and Geological Survey of Canada (1977).

MAP REFERENCES cont'd

Map 1995, Cross and Pipestone lakes area, (Geology), Scale 1:126 720, by F.J. Alcock, Geological Survey of Canada (1919).

Map 32-1961, Cross Lake, (Geology), Scale 1:253 440 - Accompanying Paper by Bell (1962), Geological Survey of Canada.

#Map 62-4, Cross Lake area, (Geology), Scale 1:63 360 - Accompanying Publication by Rousell (1965), Manitoba Mines Branch.

Preliminary Map 1987N-2, Cross Lake southwest, (Geology), Scale 1:20 000, by M.T. Corkery, P.G. Lenton and H.D.M. Cameron, Manitoba Mineral Resources Division.

Claim Map Series 63I/12 SW, Scale 1:31 680, circa 1966, Mining Recording, Manitoba Mines Branch.

REMARKS

1. Other spodumene-bearing dykes in the locality, especially on Spodumene Island (next to Metis Island), intrude massive and pillowed metabasalt (P. Lenton, in Bannatyne, 1985).

2. About 100 m east-southeast of the main outcrop is another beryl-bearing dyke that is exposed on the south shore of Metis Island. Rousell (1965, p. 56) notes 8 beryl localities in metasediments on several islands in Cross Lake (see Bannatyne, 1973; Lenton and Anderson, 1983, p. 207). These were confirmed by Bannatyne (1975), who also provided most of the information for the 'Description of Deposit' section.

3. Ta-Nb oxide minerals were found at 9 localities in the Cross Lake pegmatite field (Lenton and Anderson, 1983). Columbite-tantalite occurs as tabular and wedge-shaped grains (0.1 - 5 cm long) in cleavelandite and fine-grained albite (Anderson and Cerny, 1982). The beryl-columbite occurrences are in a northeast-trending belt ('Northern Series') of pegmatites (Anderson and Cerny, 1982).

Comp./Rev.			SMH	PA
By Date	07-62	02-69	03-75	07-88

PRODUCT Tantalum **N.T.S. AREA** 53M/4 NW **REF.** TA 1

NAME OF PROPERTY:
Bear Lake

OWNER OR OPERATOR AND ADDRESS
1988 - Open

OBJECT LOCATED Occurrence **Mining Division** Winnipeg

Lat. 55° 10.00' Long. 95° 57.50' UNCERTAINTY: 3000 m

Sec. Tp. 71 R. 10 EPM

DESCRIPTION OF DEPOSIT

The occurrence is situated within Precambrian pegmatites which intrude grey foliated hornblende-biotite granodiorite with quartz diorite and siliceous phases. The crystals of columbite-tantalite were found as a thin fracture-filling or coating on the brownish feldspar of the pegmatite.

HISTORY OF EXPLORATION AND DEVELOPMENT

The occurrence is located on the northwest shore of a very small lake, 1219 m north of Bear Lake, at the western side of the map area.

Milligan and Take (1954) visited the occurrence; however, their description of the location is vague, and the location described above may not actually be the one selected for this card.

Canadian Nickel Company Limited did an aeromagnetic survey in the area in 1955 under Airborne Permit No. 13, and an airborne electromagnetic and magnetic survey in 1971 under Airborne Permit No. 95 (Non-confidential Assessment File Nos. 91620, 91688).

REFERENCES

Bannatyne, B.B., 1985, Industrial minerals in rare-element pegmatites of Manitoba; Manitoba Energy and Mines, Geological Services, Economic Geology Report ER84-1, p. 89.

Manitoba Mines Branch:
a Non-confidential Assessment Files; File Nos. 91620, 91688.

Milligan, G.C. and Take, W.F., 1954, Geology of the eastern Bear Lake area; Manitoba Mines Branch, Publication 53-1, p. 51.

Associated minerals or products of value
columbium.

REFERENCES cont'd

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Quinn, H.A., 1955b, Knee Lake (Marginal Notes), Manitoba; Geological Survey of Canada, Paper 55-8.

MAP REFERENCES

Map 53M, Knee Lake, (Topographic), Scale 1:250 000, Surveys and Mapping Branch, Ottawa.

*Map 2619G, Dobbs Lake, (Aeromagnetic), Scale 1:63 360, Manitoba Mines Branch and Geological Survey of Canada.

Map 36353G, (Airborne Gamma Ray Spectrometry), Scale 1:250 000, Province of Manitoba and Geological Survey of Canada (1977).

Map 94-1986, East-Central Manitoba, (Lake sediment and water geochemical survey), Scale 1:250 000, GSC Open File 1358, Geological Survey of Canada.

#Map 53-1, Eastern Bear Lake, (Geology), Scale 1:31 680 - Accompanying Report by Milligan and Take (1954), Manitoba Mines Branch.

Map 55-8, Knee Lake, (Geology), Scale 1:253 440 - Accompanying Marginal Notes by Quinn (1955b), Geological Survey of Canada.

REMARKS

Allanite, a resinous brown mineral has been identified from the south side of the south channel of the Bigstone River (Milligan and Take, 1954), near the east edge of the map area, and also about 1.6 km to the southeast, east of the map area (Bannatyne, 1985).

Comp./Rev.	CC	PA
By Date	05-74	07-88

PRODUCT Lithium **N.T.S. AREA** 52L/12 SE **REF.** LI 2

NAME OF PROPERTY:
Alex No. 1
(North, High Grade,
West dykes)

OWNER OR OPERATOR AND ADDRESS
1988-Tantalum Mining Corporation
of Canada Limited
Box 2000
Lac du Bonnet, Manitoba
ROE 1A0

OBJECT LOCATED: Centre of Alex No. 1 **MINING DIVISION** Winnipeg

Lat. 50° 37.10' Long. 95° 35.95' **UNCERTAINTY:** 300 m

Sec. Tp. 19 R. 14 EPM

DESCRIPTION OF DEPOSIT

The area consists of at least three spodumene-bearing pegmatite dykes (North, West, High Grade) that generally intrude Precambrian metavolcanics (Fig. 1). The major dyke is the North dyke which "outcrops along the southeast side of a shallow valley 6 m wide" (Bannatyne, 1985).

The North dyke strikes 040° and dips nearly vertical to steeply southeast. It outcrops over a distance of about 250 m and averages about 5 m in thickness (Cerny et al., 1981). The dyke contains columnar K-feldspar, albite, quartz, and Li-enriched curvilamellar mica. Spodumene occurs mainly as fine needles (1.3 - 2.5 cm long) intergrown with quartz. "On some faces, the spodumene-quartz forms 30 to 50 per cent of the dyke" (Bannatyne, 1985). "These two minerals form elongated pods and lenses, in which the spodumene is oriented perpendicular to the long directions of the pods" (Mulligan, 1965). Spodumene is apparently "secondary after petalite, the original crystals of which attained 15 cm in length" (Cerny et al., 1981).

In the West dyke, several exposures (0.3 to 1.8 m wide) were reported to contain 5 to 30% spodumene. Green spodumene was reported in one exposure (Non-confidential Assessment File No. 91769).

The High Grade dyke is "exposed along the eastern side of a large outcrop area of fine grained, massive metavolcanics" (Bannatyne, 1985). "Contacts with the metabasaltic wall rock are mostly sharp" (Cerny et al., 1981). The dyke strikes north and dips 65° W. The dyke has an exposed length of 18 m and a width of 0.6 to 1.2 m. It is reported to extend over 152 m (500 ft) along strike from the known outcrop area. The dyke contains blocky K-feldspar, quartz, glassy pollucite, altered pollucite, masses of white to very pale mauve spodumene in coarse blades, lilac lepidolite veinlets and stringers, and white cleavelandite that is oriented perpendicular to the contact. Rare columbite-tantalite, microlite, aquamarine beryl, white anhedral beryl, green mica, and all colour varieties of tourmaline, have also been reported. Albitization is widespread.

Associated minerals or products of value
tantalum, tin, beryl, cesium, feldspar.

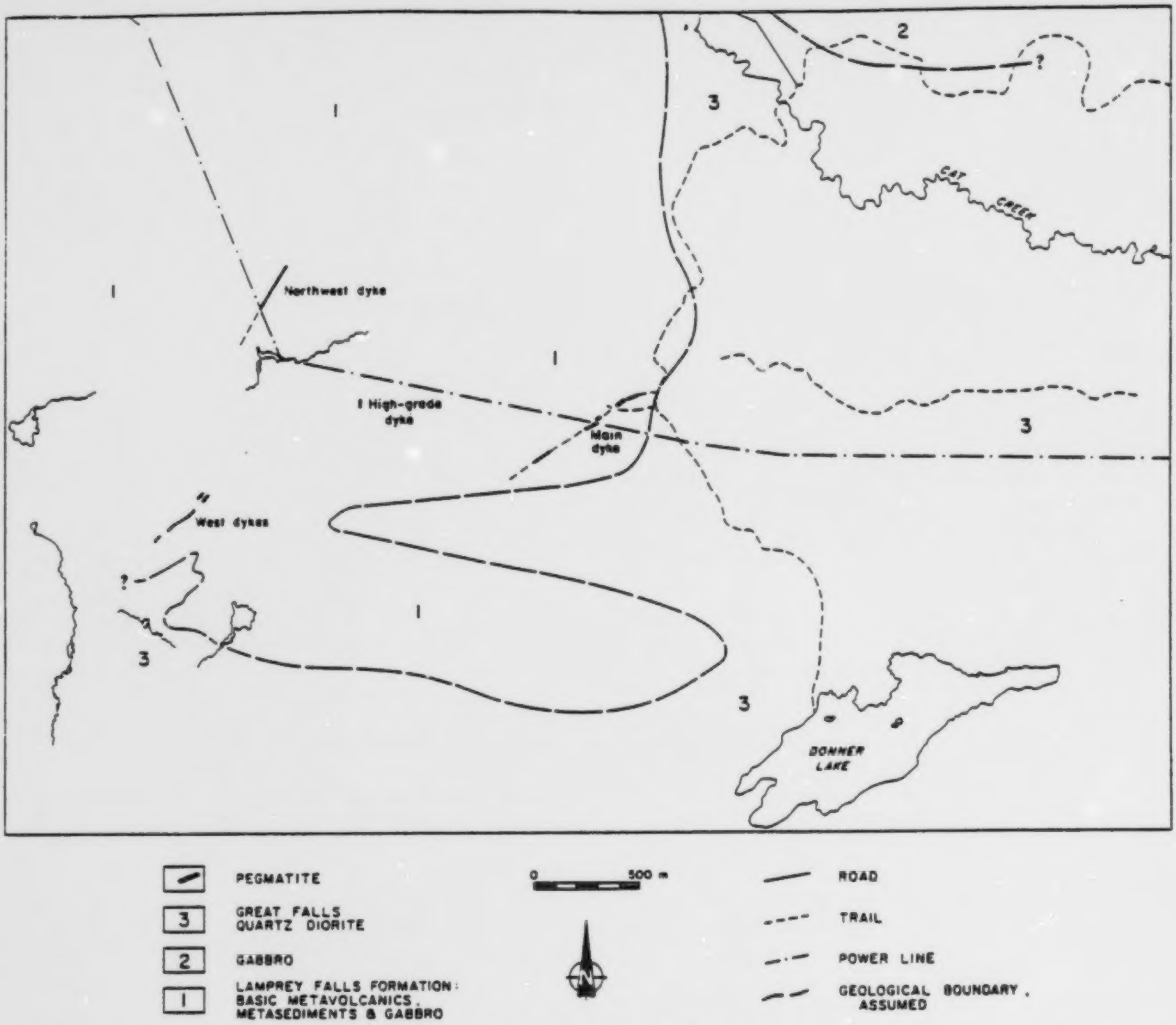
2
?
3
1
CAT CREEK
1
Northwest dyke
1
I High-grade dyke
Main dyke
3
West dykes
?
1
3
3
DONNER LAKE
PEGMATITE
3 GREAT FALLS QUARTZ DIORITE
2 GABBRO
1 LAMPREY FALLS FORMATION: BASIC METAVOLCANICS, METASEDIMENTS & GABBRO
0 500 m
N
ROAD
TRAIL
POWER LINE
GEOLOGICAL BOUNDARY, ASSUMED

Figure 1: *Pegmatites near Donner Lake.* (source: Bannatyne, 1985: 69).

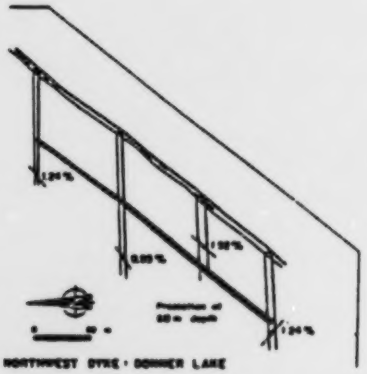

Figure 2: *Drilling results, Donner Lake pegmatites; Northwest dyke; data from drill hole logs in ESS file 91769.*
Source: Bannatyne (1985: 71).

NAME OF PROPERTY **FILE NO.** 1007
Alex No. 1 (North, High Grade, West dykes) **N.T.S. AREA** 52 L/12 SE **REF.** LI 2

HISTORY OF EXPLORATION AND DEVELOPMENT

The property is located near a power line clearing, approximately 4.5 km north-northeast of Maskwa Lake, and 9.5 km west of Cat Lake (and Provincial Road No. 314). The North dyke, first discovered by J. Donner, outcrops about 1.2 to 1.6 km northwest of the Main dyke (see 52L/12 LI 1; Davies, 1956).

The High Grade dyke is located about 250 m south of the power clearing, on the old Lithium 1 claim, area 22.34 ha, staked by J. Donner in 1951. Previous claims include Monel 24 (W 7492) in 1936-1940, Spot 15 (W 15568) in 1947-1949; previous holders include G. Linklater (1936), Red Cloud Mining & Smelting Ltd. (N.P.L.) (1937-40), and J.O. McCue (1947-49). Lithium 1 has a similar history to Alex 1 from 1955 onwards.

The West dyke is located about 1.5 km (4800 ft) west of the west end of the Main dyke (see 52L/12 LI 1), on the old Alex Nos. 3, 4 (W 20471, 72) claims, staked by J. Donner in 1954. The history is similar to the Alex 1 claim. Previous claims include Chinook 3, 4; Monel 9, 10 (W 6697, 8); J.P. 2, 6 (W 17170, 74); Art 1, 2 (W 18479, 80). Previous owners include: F.D. Cheswright (1936), Red Cloud Mining & Smelting Ltd. (N.P.L.) (1937-40), P. Osis (1949-1950), A. Fontaine (1951), Alexander Boyd (1952-54).

The following claims were recorded over the North dyke area between 1936 and 1954:

Claim Name	Year	Staker
1. Chinook No. 1	1936?	? (Mining Claim map, circa 1936)
2. Monel No. 8 (W 6696)	1936	B. McGrath
Monel No. 23 (W 7941)	1936	Gordon Linklater
- 1937 assigned Red Cloud Mining & Smelting Ltd		
- 1938 surveyed at 6.8 ha, 6.6 ha respectively		
- 1940 cancelled		
3. Maskwa No. 3 (W 10274)	1941-1947	Fred Wallace
Maskwa No. 2 (W 10273)		
4. Birt No. 1 (W 17086)	1949	L. Larson
Birt No. 2 (W 17087)		
- 1949 assigned D.A. McLeod		
- 1950 cancelled		
5. Frank No. 6 (W 18456)	1951-1954	F. Friedoff
6. Alex No. 1 (W 20469)	1954	J. Donner

In 1955, J. Donner signed an option agreement with Violamac Mines Limited and P. Osis. That year, geological mapping was done on the Alex No. 1 claim at a scale of 1:4800, with more detailed mapping at a scale of 1:480. In addition, four holes totalling 439 m (1440 ft) were drilled on Alex 1, with two more holes totalling 152 m (498 ft) on Alex 1 and 2. The best drill core

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

intersections of the North dyke (see Fig. 2) were reported by Violamac Mines Limited as follows (Non-confidential Assessment File No. 91769):

DDH No.	%Li_2O	Interval	Sample Depth
N1	1.239	4.3 m (14' 3")	114 m (373.3 ft)
N2	0.931	8.6 m (28' 2")	124 m (408 ft)
N3	1.523	8.0 m (26' 2")	57 m (187.5 ft)
N4	1.241	8.4 m (27' 8")	84 m (274.7 ft)

Violamac Mines Limited reported the following (Non-confidential Assessment File No. 91769):

	NORTH DYKE
Total drilled length	354 m (1160 ft)
Total drilled depth (open longitudinally and vertically)	137 m (450 ft)
Total ore length	------
Ave. ore width	4.5 m (14.9 ft)
Ave. grade	1.245% Li_2O
Estimated tonnes/vertical metre (tons/ft)	4406 tonnes (1480 tons)
Tonnes (tons) indicated to drilled depth of 137 m (450 ft)	603 740 tonnes (665 323 tons)
Tonnes (tons) inferred to 305 m (1000 ft)	739 560 tonnes (815 000 tons)
Total indicated and inferred	1 343 010 tonnes (1 480 000 tons)

In 1956, the Alex No. 1 claim was assigned to Lithia Mines and Chemicals Limited (a subsidiary of Violamac Mines Limited). It was surveyed at 24.73 ha in 1958. The property apparently has three trenches with dimensions of 5.7 x 1.5 m, 5.9 x 1.5 m, and 3 x 1.2-1.5 m.

Airborne surveys were done in the area by Canadian Nickel Company Limited in 1959, and by the Keevil Mining Group Ltd. in 1969 under Airborne Permit Nos. 26 and 82, respectively (Non-confidential Assessment File Nos. 90008, 91677). In 1970, the claim was leased under 21 year lease M-9136. The next year, Hudson Bay Exploration and Development Company Limited flew a helicopter EM and radiometric survey in the area under Airborne Permit No. 93 (Non-confidential Assessment File No. 91686).

In 1973 and 1974, the area was examined by the Manitoba Government. B.B. Bannatyne, P. Cerny and L. Solkoski located a pollucite-bearing dyke (High Grade dyke) on the former Lithium 1 claim in 1974, with the aid of a geological map of the claims, supplied by J. Donner (Bannatyne, 1985). Pollucite had previously been reported in the locality by Bristol (1962).

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

The 21 year lease was cancelled in 1976. The next year, CB 7690 comprising 170 ha was staked by Stephen G. Diakow (assisted by Volker Ahlborn). The claim block was assigned to Canadian Superior Exploration Limited in March, and then to John S. Vincent in December 1977.

In 1978, Tantalum Mining Corporation of Canada Limited (Tanco) which is owned by Hudson Bay Mining and Smelting Co., Limited (37.5%), Kawecki Berylco Industries (37.5%) and the Manitoba Government (25%), obtained the claim. That year, while examining the North and Main (see 52L/12 LI 1) dykes, a spodumene-pollucite-lepidolite bearing pegmatite (High Grade dyke) was found on CB 7690 and was subsequently drilled with four drill holes totalling 120 m. Drill core assays of up to 0.067% Ta_2O_5, 0.015% SnO_2 were reported for 1 m sections of core (Non-confidential Assessment File No. 92396).

In 1979, a bedrock lithium geochemical survey and a tin/tantalum exploration program was done in the area (Non-confidential Assessment File No. 92397). The lithium survey resulted in the outlining of five anomalies corresponding to five pegmatite dykes (Main, South (see 52L/12 LI 1), North, West, High Grade) in the locality. The North, West, and High Grade dykes occur on CB 7690.

The tin/tantalum program indicated assays of up to 0.025% Ta_2O_5 and 0.035% SnO_2 over a 2.4 m chip-sampling width, for the North dyke. In addition, the 1955 drill core from the North dyke was split and analyzed for tin and tantalum but the results were poor (Non-confidential Assessment File No. 92397). Partial chemical analyses of two spodumene + quartz (pseudomorphs after petalite) samples from the North dyke indicated contents (in wt%) of 0.32% Na_2O, 0.12% total Fe as Fe_2O_3, and 4.13% Li_2O; and 0.34% Na_2O, 0.16% total Fe as Fe_2O_3, and 4.22% Li_2O, respectively (Cerny et al., 1981, p. 104).

The West and High Grade dykes were examined by another lithogeochemical survey in 1981 (Non-confidential Assessment File No. 92399). The West dyke returned assays of up to 760 ppm Li_2O from 56 samples; the High Grade dyke returned up to 840 ppm Li_2O from 113 samples. Cerny et al. (1981, p. 104) reported contents (in wt%) of up to 0.32% Na_2O, 0.09% total Fe as Fe_2O_3, and 7.34% Li_2O in a sample of zonal spodumene from the High Grade dyke, with similar results for two other samples of spodumene.

CB 7690 was restaked as Susan 3 (W 48029) by D.L. Trueman and H. Nilsson in 1982, and as Spot 3 (W 48962) by Randy M. Karklin in 1983, on behalf of Tanco. The Spot 3 claim, which includes the North, West, and High Grade dykes, comprises 82 ha.

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Manitoba Mines Branch:
a Non-confidential Assessment Files; File Nos. 90008, 91677, 91686, +91769, +92396, 92397, +92399.
b Unpublished Information Files; 52L/11.
c Corporation Files; Bear River Copper Company Limited; Gold Rock Mines Ltd.; Violamac Mines Limited; Tantalum Mining Corporation of Canada Limited.
d Mining Engineering Files; Bear River Copper Company Limited; Violamac Mines Limited.

NAME OF PROPERTY
Alex No. 1 (North, High Grade, West dykes) **N.T.S. AREA** 52 L/12 SE **FILE NO.** 1007 **REF.** LI 2

REFERENCES

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Map 4071 G, Maskwa Lake, (Aeromagnetic), Scale 1:63 360 - Manitoba Mines Branch and Geological Survey of Canada.

Map 37-1, Maskwa Lake north, (Geology), Scale 1:31 680, by F.D. Shepherd, Manitoba Mines Branch (1942).

Map 49-7, Cat Lake-Winnipeg River area, (Geology), Scale 1:63 360 - Accompanying Report by Springer (1950), Manitoba Mines Branch.

Preliminary Map 1972 F-1, Geological compilation map of the Bird River area, (Geology), Scale 1:50 000, by D.L. Trueman, Manitoba Mines Branch.

Preliminary Map 1978 F-2, Pointe du Bois (West part), (Geology), Scale 1:250 000, by D.A. Janes, Manitoba Mines Branch.

Preliminary Map 1985 C-1, Cat Creek, (Geology), Scale 1:10 000, by J.J. Macek, Manitoba Mines Branch.

Figure 67, Pegmatites near Donner Lake, (geology), Scale 1:30 000 - Accompanying Report by Bannatyne (1985), Manitoba Energy and Mines.

Map ER80-1-1, Cat Lake-Winnipeg River pegmatite field, (Geology), Scale 1:100 000 - Accompanying Report by Cerny et al.(1981), Manitoba Mineral Resources Division.

#Claim Map Series SE 12, 52L, Scale 1:31 680, circa 1966, Mining Recording, Manitoba Mines Branch.

Comp./Rev.		CC	PA
By Date	02-68	12-73	05-88

PRODUCT Lithium **N.T.S. AREA** 53L/16 SE **REF.** LI 1

NAME OF PROPERTY:
Bil Group
(Johnson Bay Pegmatite)

OWNER OR OPERATOR AND ADDRESS
1988-W. Bruce Dunlop Ltd (NPL)
201-2639 Portage Avenue
Winnipeg, Manitoba
R3J 0P7

OBJECT LOCATED: Centre of Bil 11 **MINING DIVISION** Winnipeg

Lat. 54° 51.66' Long. 94° 10.38' **UNCERTAINTY:** 500 m

Sec. Tp. 68 R. 22 EPM

DESCRIPTION OF DEPOSIT

The following description is from Chackowsky (1987).

The dyke intrudes sheared metabasalts of the Precambrian Hayes River Group. It is exposed over a length of 50 m and a width of 3 to 10 m. Drilling results indicate that the dyke extends "for about 2 km eastward of the exposure, and dips steeply to the north to a depth of at least 250 m" (Chackowsky, 1987, p. 107).

The dyke consists of spodumene, quartz, white muscovite, with subordinate K-feldspar (as columnar crystals up to 1 m long, and as blocky megacrysts 1-5 cm in size) and plagioclase. It contains 20-25% subparallel, bladed spodumene grains (typically 0.5 x 2 x 10 mm) that are aligned in a 150 to 160° direction. An 'earthy red' alteration is common. Veins of deep purple mica have also been noted. Microcline and fine-grained purple muscovite samples were found to be enriched in rubidium and cesium in partial chemical analyses.

Whole rock analyses of four samples of the pegmatite indicated 0.65-1.61 wt% Li_2O, up to 5131 ppm Rb, 793 ppm Cs, 491-725 ppm Ba, 227-332 ppm Pb, 240 ppm Ga, 140 ppm Y, 127 ppm Be, 51 ppm Sr, minor Ta, Nb, Sn.

HISTORY OF EXPLORATION AND DEVELOPMENT

The pegmatite is located on the north shore of Gods Lake, 6 km west of the settlement of Gods River. It apparently occurs about 100 m inland from the northeast shore of Johnson Bay (Chackowsky, 1987). A 2.3 km long valley several metres deep and about 10 m wide, has been eroded along the pegmatite, which is poorly exposed (Bannatyne, 1985).

The first reported work in this area was an aeromagnetic survey flown by Canadian Nickel Company Limited in 1955 under Airborne Permit No. 13 (Non-confidential Assessment File No. 91620).

The Bil group of claims (Bil 1-20 (W 30730-47, W 33877-78)) comprising 440 ha was staked in the area by V. Goodman in 1958 and assigned immediately to Canadian Nickel Company Limited. It was reported that the pegmatite discovery was made by prospector Carl Sherman in 1958 (Southard, 1977).

Associated minerals or products of value
rubidium, cesium, barium, gallium, yttrium.

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

The claims were assigned to Carl Sherman in 1959 and a 3-year option agreement was signed with Canadian Nickel Company Limited (a subsidiary of The International Nickel Company of Canada, Limited). The Bil 1-18 claims were grouped that year. Drilling totalling 2872 m was done in 1959-1961 outlining a pegmatite of moderate size and grade. The drilling "on 400 feet (122 m) sections showed a strike length of 7600 feet (2316 m)" (*in* Southard, 1977; see Non-confidential Assessment File Nos. 92609, 92618). A geological map of the property in Non-confidential Assessment File No. 92618 shows the location of 24 drill holes, and intersections of 1.59% Li_2O over 16 m (51.7 ft), 1.79% Li_2O over 12 m (38.6 ft), and 1.49% Li_2O over 15 m (50.6 ft) for three drill holes (ddh nos. 15430, 15472, 15474, respectively) that had been drilled on the Bil 8 claim in 1959.

In 1961, the claims were assigned to Canadian Nickel Company Limited and grouped with the Bil 21-26 (W 33879-84) claims that had been staked by Gerald Gereghty and assigned to Canadian Nickel that year. The Bil 1-20 claims were assigned to The International Nickel Company of Canada, Limited, in 1963. The claims were then surveyed, and leased as M-7891 (Bil 1-9), M-7892 (Bil 10-18), and M-7893 (Bil 19-20). The Bil 21-26 claims were cancelled in 1966.

In 1969, an airborne radiometric survey was done in the area under Airborne Permit No. 82 by Geophysical Engineering & Surveys Limited for Keevil Mining Group Limited (Non-confidential Assessment File No. 91677).

From 1971 to 1973, the Manitoba Government mapped the area at a scale of 1:50 000. The 21-year leases for 13 Bil claims (Bil 2-4, 8-11, 14-17, 19-20) were converted to 10-year Explored Area Lease No. 27 comprising 289 ha, in 1975. In 1976, The International Nickel Company of Canada, Limited changed its name to Inco Limited. The property may have been mapped that year (Non-confidential Assessment File No. 92618).

The 10-year lease was cancelled in 1985. The area was restaked soon after as Godslith (W 45426) comprising 256 ha, by Peter Dunlop (assisted by Joe Moore) for W. Bruce Dunlop Limited (N.P.L.).

In 1984-1985, the University of Manitoba, Department of Earth Sciences sampled the pegmatite for geochemical, mineralogical and petrological studies. Four whole-rock specimens were collected for a thesis study by Chackowsky (1987). Chackowsky (1987, p. 123, 112) reported: two samples of fine-grained purple muscovite averaged 0.30 wt% Li_2O, 1.70% (15 600 ppm) Rb_2O, 0.53% (4980 ppm) Cs, 290 ppm Be, with high Na_2O contents in partial chemical analyses; microcline samples returned 11 800-18 700 ppm Rb, 522-1350 ppm Cs, 32-155 ppm Li, 84-160 ppm Pb, 106-151 ppm Sr, 11-31 ppm Ba, and K/Rb ratios of 5.4-8.8, Rb/Cs ratios of 13.5-26.6.

The dyke could represent a deposit of "several tens of thousands of metric tons of lithium metal" if the entire dyke is as "homogeneous, as it is at the exposure" (Chackowsky, 1987, p. 145).

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a Non-confidential Assessment Files; File Nos. 91677, 91620, 92609, 92618.

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Map 36253G, Oxford House, (Airborne gamma-ray spectrometry), Scale 1:250 000, Geological Survey of Canada, Province of Manitoba, Province of Ontario (1978).

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REMARKS

Lithium-bearing pegmatites (spodumene) also occur south of Knee Lake (Davies et al., 1962).

Comp./Rev.	JDB	PA
By Date	08-79	06-88

MANITOBA ENERGY AND MINES **MINERAL INVENTORY FILE NO.** 190

PRODUCT Lithium **N.T.S. AREA** 52 L/6 SW **REF.** LI 1

NAME OF PROPERTY:
Silver Leaf (Bob No. 1)

OWNER OR OPERATOR AND ADDRESS
1988 - Open

OBJECT LOCATED: 600' S.W. Of Post #1 **MINING DIVISION** Winnipeg

Lat. 50° 21.00' Long. 95° 21.10' **UNCERTAINTY:** 500 m

Sec. 17 Tp. 16 R. 16 EPM

DESCRIPTION OF DEPOSIT

The deposit is of Archean age with the predominate rock types being andesites, basalts, and some minor tuffs. These have been intruded by a pegmatite granite with numerous pegmatite dykes and sills. The pegmatite body features a complex zoned internal structure with the lithium-bearing minerals occurring in the central portion of the pegmatite. The deposit is thought by Davies (1957), to be in the shape of a gentle trough which plunges westward into a swamp and is tilted to the south. The deposit has been traced by diamond drilling and trenching along strike for approximately 168 m (550 ft), with a maximum width of 31 m (100 ft). See Figure 1 and 2.

The central, most economic, portion of the pegmatite is composed of lepidolite surrounded by an envelope of spodumene and quartz. The lepidolite zone outcrops as three large masses with lengths and maximum widths as follows: 23 m x 6 m (75 x 20 ft); 12 m x 4 m (40 x 12 ft); 5.5 m x 3 m (18 x 11 ft); it is also found in a westerly cut over a width of 2 m (6.5 ft) (Stockwell in Wright, 1932). A K-Ar date for lepidolite is given as 2480 million years (Lowden, 1960 in Bannatyne, 1985). A few masses of tantalite-columbite, up to 5 cm (2") across, were reported in the 12 x 4 m lepidolite outcrop (Stockwell, 1933). Spodumene is known to outcrop over a 334 m^2 (3600 sq ft) area (Wright, 1926); a quartz-spodumene crystal measuring 91 cm x 17 cm (3 ft x 7 inch) was reported near the core zone (Stockwell, 1933). Outside of this core is a zone of banded aplite, and a narrow rim of albite granite forms the lower part of the trough. A quartz-feldspar-muscovite rock makes up the upper part of the body (Springer, 1950).

According to Cerny et al. (1986, p. 503): "the Silverleaf offshoot consists largely of garnetiferous aplite with a large rounded pod of Li-, Rb-, Mn-, Nb-, Ta-, Be-, Sn-, and F-rich pegmatite. The pod consists of microcline-perthite, quartz, albite, lithian muscovite, lepidolite, spessartine, cesian beryl, petalite, spodumene, topaz, cassiterite, manganocolumbite - manganotantalite, triphylite - lithiophilite, and amblygonite - montebrasite, with rare apatite, tourmaline and sphalerite".

Associated minerals or products of value
topaz, beryllium, columbium, tantalum, fuchsite, tin, germanium, rubidium, gallium, fluorite.

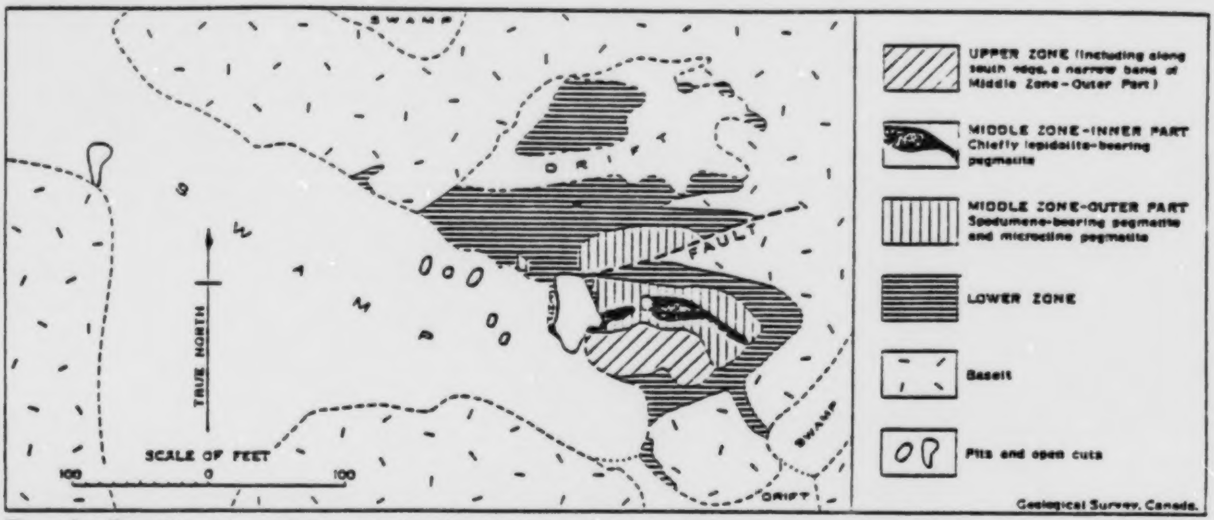
SWAMP
DRIFT
FAULT
SWAMP
TRUE NORTH
SCALE OF FEET
100
0
100
UPPER ZONE (Including along south edge, a narrow band of Middle Zone - Outer Part)
MIDDLE ZONE-INNER PART Chiefly lepidolite-bearing pegmatite
MIDDLE ZONE-OUTER PART Spodumene-bearing pegmatite and microcline pegmatite
LOWER ZONE
Basalt
Pits and open cuts
Geological Survey, Canada.

Figure 1. Pegmatite dyke on Bear mineral claim, lot 17, range 16 (east of principal meridian), Manitoba—by C. H. Stockwell. in Wright (1932:115)

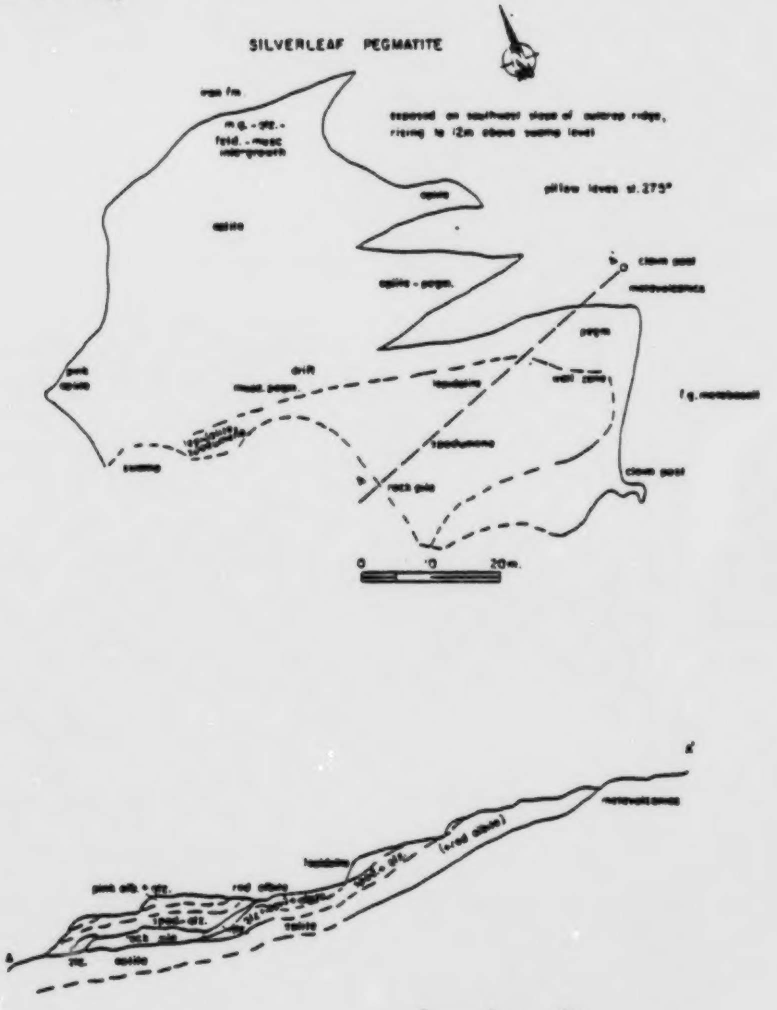

Figure 2: Plan and section of Silverleaf pegmatite (tape and compass survey). (Source: Bannatyne 1985: 23)

DESCRIPTION OF DEPOSIT cont'd

Other minerals reported include: minor fluorite (Wright, 1932), zinnwaldite (Stockwell, 1933), radioactive minerals (Springer, 1950), rare gahnite and monazite (Bannatyne, 1985, p. 24). Chemical analysis of an ilmenite sample indicated contents of 51.8% TiO_2, 46.1% FeO, 1.4% MnO; fluorine contents in samples analyzed ranged from 17.9 to 19.7 wt % (Cerny et al., 1981, p. 111, 117). Two types of pseudo-ixiolite were reported: one associated with K-feldspar, the other with lithium micas and spodumene-quartz aggregates (Cerny and Turnock, 1971b).

HISTORY OF EXPLORATION AND DEVELOPMENT

The property is located approximately 4.8 km east of Lamprey Falls on the Winnipeg River and was first staked as Bear (33215) by R.G. Johnston and F.B. Evans in 1924. They did a small amount of trenching and stripping. This was the first indication of the existence in Canada of deposits of lepidolite and other lithium minerals which might prove of economic importance.

In the winter of 1925, an area covering 31 x 12 m (100 x 40 ft) on the side of a hill was stripped by Mr. Johnson and Mr. G.E. Hoyt. They also did some blasting, and shipped samples to various commercial laboratories (Wright, 1926). The property was then assigned to The Silver Leaf Mining Syndicate (Canada) Limited in 1925, and two years later the property went to lease (794), and was surveyed at 16 ha (40.4 ac).

The Silver Leaf Mining Syndicate (Canada) Limited had incorporated in Yorkshire, England in the spring of 1925. The syndicate built camps, installed mining machinery. A 5.6 km (3.5 mi) long pole tram-line and winter road was built to the property (Wright, 1926). Initial development work consisted of stripping, quarrying and open-cutting. In 1926, 305 m (1000 ft) of trenching was done in a swamp in order to drain it to a depth of 3 m (10 ft): the pegmatite was exposed in four of six pits sunk in the swamp. Wright (1926) noted minor beryl and tantalite in the deposit.

Six tons (5.4 tonnes) of rock were quarried, crushed, and then shipped to England for large-scale experimental tests. During 1926 and 1927, some 68 tonnes (75 tons) of spodumene and lepidolite were shipped to Germany, England, and the United States for testing. The Corning Glass Works of New York stated that the lepidolite samples contained too high a percentage of iron (1.25%) and manganese (0.50%) to be satisfactory in glass making, while the spodumene, which was free from impurities, might be used. Chemical analyses of samples from the pegmatite, reported by various analysts are shown in Table 1.

During the years 1927 and 1928, 486 tonnes (535 tons) of ore were removed (see History of Production). It was also reported that Papish (1929) extracted 0.019 g of germanium dioxide from 18.3 g of topaz, and later found rubidium and gallium in purple radiating micas (Wright, 1932).

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

Table 1: Spodumene and lepidolite analyses, Silver Leaf Deposit.

	1	2	3	4	5	6	7
	%	%	%	%	%	%	%
SiO_2	n.d.	46.98	36.64	.....	.....	...	...
P_2O_5	n.d.	.....	18.22	trace	1.25	...	...
Al_2O_3	n.d.	25.85	25.62	26.63	18.13	...	...
FeO	n.d.	.....	2.79	.....	.....	...	...
Fe_2O_3	n.d.	0.64	.....	0.10	0.07	0.3	0.4
AlF_3	n.d.	8.40	.....	.....	.....	...	...
MnO	n.d.	.....	traces	.....	.....	0.3	0.9
CaO	n.d.	0.36	2.03	.....	.....	...	...
MgO	n.d.	0.12	0.25	.....	.....	...	...
Li_2O	4.02	3.98	5.23	3.87	4.76	2.9	3.5
K_2O	n.d.	3.55	1.28	9.62	0.11	...	...
Na_2O	n.d.	6.50	4.40	1.80	0.28	...	...
F	4.21	.....	1.26	4.10	0.16	3.6	3.1
Loss on ignition	n.d.	3.62	2.60				
		100.00	100.32				
Less $O_2 = F_2$			0.53				
			99.79				

1 - Lepidolite sample, Sept. 2, 1925. E.A. Thompson, analyst, Mines Branch, Ottawa (source: Cole and Eardley, 1926, p. 72).
2 - Lepidolite. Daniel C. Griffith & Co., London, England, analyst (source: Cole and Eardley, 1926, p. 72).
3 - Spodumene (?), probably mixture of spodumene and amblygonite; analyst as above (source: Cole and Eardley, 1926, p. 72).
4 - Sample of compact crystalline lepidolite; M.F. Connor, analyst (source: Wright, 1926, p. 103).
5 - Spodumene-bearing rock less 50% gangue; M.F. Connor, analyst (source: Wright, 1926, p. 103).
6 - Lepidolite. Analysis furnished by Corning Glass Works, Corning, N.Y. (source: Spence, 1928).
7 - Lepidolite ore. E.A. Thompson and A. Sadler, analysts, Mines Branch (source: Spence, 1928).

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

Poitevin et al. (Manitoba Mines Branch, Corporation File, Silver Leaf Mining Syndicate (Canada) Limited, The) reported the analyses of several mineral species from the pegmatite: amblygonite indicated 8.20% Li_2O, 2.96% Na_2O; spodumene 6.47% Li_2O; light lilac mica 0.13% Li_2O, 10.90% K_2O; radiating lilac mica 1.06% Li_2O, 10.50% K_2O, 2.94% Na_2O, 2.15% F; lithiophilite 6.99% Li_2O; topaz 16.51% F; beryl 12.74% BeO. In addition, traces of rubidium and cesium were reported in some mica samples. C.H. Stockwell (in Wright, 1932) reported a spodumene-quartz ratio of 55:45 (by weight) in a typical sample. While, Ellsworth (1932 in Bannatyne, 1985) apparently noted a few small masses of columbite-tantalite, 2.5 cm (an inch) or so in diameter.

In 1931 the lease was assigned to R. Patterson and later in the same year the property was sold at public auction to G.W. Benz and H.G. Benz. It was reported that as of May 1939, The Lithium Corporation of Canada, Limited held the Bear and Balsam claims under a purchase-option agreement. There is no further information on this option. In 1943, H.G. Benz assigned all his interest to G.W. Benz. The lease was cancelled in 1945.

The Bob 1 (W13698) was a restaking of the Bear and a small portion of the Balsam (33132). The Bob 1 was staked by Matt Hanidin in 1945. The property was then assigned to Kay M. Wengel in 1946 and some six pits were dug, removing 56 m^3 (1968 cu ft) of rock, before the property went to lease (M-3598) and surveyed at 19 ha (46.2 ac) in 1954. One month later, the lease was assigned to The Lithium Corporation of Canada, Limited which then drilled 13 holes totalling 490 m to check the western extension of the pegmatite. Drill depths ranged from 13 m to 90 m (41 - 295 ft) (Non-confidential Assessment File No. 91790).

The drilling confirmed a tabular pegmatite body dipping 30° S, extending 168 m (550 ft) westward (Davies, 1957), and ranging in thickness from 5 to 11 m over a drilled length of 245 m; minor Li-bearing zones were intersected (Bannatyne, 1985, p. 24). The western extension of the pegmatite was indicated in seven of the thirteen holes but was eroded in the other locations drilled.

The Lithium Corporation of Canada, Limited was financed by Mogul Mining Corporation Limited (Inc. 1954; later renamed Consolidated Mogul Mines Limited in 1958, Mogul Mines Limited in 1967, and International Mogul Mines Limited in 1968).

In 1956-57, Dalhart Minerals Corporation Limited did an extensive exploration program consisting of geological mapping, trenching, diamond-drilling and bulk-sampling to evaluate the beryllium potential of pegmatites in the Greer Lake area (Non-confidential Assessment File No. 92715). It is not known what work if any was done on the Silver Leaf pegmatite. In 1959, Canadian Nickel Company Limited did an airborne EM survey using the INCO dual frequency IP/OP system under Airborne Permit No. 26 (Non-confidential Assessment File No. 90008).

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

In 1971, Hudson Bay Exploration and Development Company Limited did a helicopter EM and radiometric survey over the area under Airborne Permit No. 93, and some anomalies were detected (Non-confidential Assessment File No. 91686).

Cerny and Turnock (1971b) reported the results of chemical analyses done on three samples of the Silver Leaf pegmatite as shown in Table 2, and reported the occurrence of "isolated black grains of cassiterite" that were often associated with columbite.

Table 2. Chemical analyses (recalculated to 100%), Silver Leaf Pegmatite

FeO	1.0	1.8	1.8
MnO	20.1	16.5	18.4
Nb_2O_5	30.5	34.8	37.4
Ta_2O_5	48.3	45.2	42.1
TiO_2	0.0	0.2	0.0
SnO_2	0.1	1.5	0.3

Analyst: K. Ramlal, 1970.

Tantalum exploration was done in the area by Tantalum Mining Corporation of Canada Limited (Tanco) in 1976-1977. In July 1976, Tanco explored a dyke known as the 'Silver Leaf' which occurs partly on the Cub claim and which appears to continue onto the Bob No. 2 and possibly the Bob No. 1 claim. The dyke located near a gabbro-basalt contact was explored by prospecting, trenching and blasting. Samples collected returned assays of 27.12% Ta_2O_5, 53.45% Cb_2O_5, 0.798% SnO_2, 0.19% TiO_2; mica samples returned 0.34% Rb_2O, 0.21% Li_2O, 0.009% Ga (Non-confidential Assessment File No. 92362). On November 22, 1976, The Lithium Corporation of Canada, Limited cancelled the 21-year lease M-3598.

The next year, on April 5, 1977, Geo (W45878) covering 16.8 ha (41.61 ac) was staked by R.A. Crouse (assisted by R. Gilroy) for Tanco. Three drill-holes totalling 159 m (521.6 ft) were spotted on the edge of the Silver Leaf pegmatite and inclined inwards into the lepidolite-rich core of the pegmatite (Non-confidential Assessment File No. 92361). One drill-hole missed the pegmatite; the second hole (61 m deep, inclined at 45°) intersected patchy lepidolite at drill-depths of 3 m to 10 m and 5 cm of pegmatite containing 15% columbite at a drill-depth of 40 m. The other hole (37 m deep, inclined at 30°) had patchy lepidolite at drill-depths of 20 m to 24 m. The pegmatite was considered too small to be of economic value. The claim was cancelled on June 10, 1980.

Tanco (owned by Hudson Bay Mining and Smelting Co., Limited (37.5%), Kawecki Berylco Industries (37.5%) and the Manitoba Government) still maintained mineral rights to the deposit under the 183 ha Wimp 1 (CB 12118) claim, which was staked by H.S. Nilsson (assisted by H. Larsen and S. Smith) on December 8, 1980 (see: 52L/6 BE 3, LI 3, LI 4). In 1981, Tanco completed a reconnaissance lithogeochemical survey over the Wimp claim group, and outlined a number of

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

lithia anomalies (Non-confidential Assessment File No. 92715). Two cassiterite samples from the pegmatite had average contents of 94.2% SnO_2, 4.8% Ta_2O_5, with minor FeO and MnO (Cerny et al., 1981, p. 119). Wimp 1 (CB 12118) was cancelled on March 9, 1984.

On July 25, 1984, the 36-ha Silverleaf (W 49395) claim was staked by William C. Hood (assisted by J.D. Berry). The claim was cancelled two years later.

Electron microprobe analyses of columbite-tantalite from the 'Silverleaf' pegmatite indicated a chemical composition of 62.9% Ta_2O_5, 20.4% Nb_2O_5, 0.02% TiO_2, 0.7% SnO_2, 15.6% MnO, 0.05% FeO, 0.3% CaO (Cerny et al., 1986, p. 505).

HISTORY OF PRODUCTION

Date	Tonnage	Description
Jan.- Dec., 1927	100 tonnes (110 tons)	36 tonnes (40 tons) Fuchsite 27 tonnes (30 tons) Spodumene 36 tonnes (40 tons) Lepidolite
Jan.- Dec., 1928	386 tonnes (425 tons)	172 tonnes (190 tons) Spodumene 73 tonnes (80 tons) Lepidolite 159 tonnes (175 tons) mixed rock stucco dash

"Stockpiles of lepidolite and spodumene from the deposit are located at present on Garden Bay" (Bannatyne, 1985, p. 24).

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  b Corporation Files; Silver Leaf Mining Syndicate (Canada) Limited, The; Lithium Corporation of Canada Limited, The.

Mineral Development Sector; Corporation Files: "The Silver Leaf Mining Syndicate (Canada) Limited"; "The Lithium Corporation of Canada, Limited".

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Preliminary Map 1975 F-9, Bird River E. (Geol), Scale 1:31 680, by D.L. Trueman, Manitoba Mines Branch.

Map ER80-1-1, Cat Lake-Winnipeg River pegmatite field (Geol), Scale 1:100 000 - Accompanying Report by Cerny et al.(1981), Manitoba Mineral Resources Division.

Map ER80-1-3, Winnipeg River pegmatite district (Structural Geology), Scale 1:50 000 - Accompanying Report by Cerny et al.(1981), Manitoba Mineral Resources Division.

#Claim Map Series SW 6, 52L, Scale 1:31 680, circa 1974, Mining Recording, Manitoba Mines Branch.

NAME OF PROPERTY		**FILE NO.** 190
Silver Leaf (Bob No. 1)	**N.T.S. AREA** 52 L/6 SW	**REF.** LI 1

REMARKS:

1. "A poorly marked trail extends from the pegmatite for 2 km northeastward to Garden Bay on Winnipeg River" (Bannatyne, 1985, p. 22, 24).
2. The pegmatite is "similar to the lithium-rich, petalite-bearing pegmatites of the Bernic Lake type" (Cerny and Turnock, 1971a).

Comp./Rev.		GGS	PA
By Date	2-68	11-73	04-88

MANITOBA ENERGY AND MINES **MINERAL INVENTORY FILE NO.** 177

PRODUCT Beryllium **N.T.S. AREA** 52L/6SW **REF.** BE 2

NAME OF PROPERTY:
Grace

OWNER OR OPERATOR AND ADDRESS
1988 - Open

OBJECT LOCATED: Centre of Grace M.C. **MINING DIVISION** Winnipeg

Lat. 50° 20.3'	Long. 95° 19.0'	UNCERTAINTY: 100 m
Sec. 10, 15	Tp. 16	R. 16 EPM

DESCRIPTION OF DEPOSIT

The deposit is a berylliferous pegmatite dyke intruding Archean grey oligoclase granodiorite and quartz diorite of the Great Falls Pluton. The zone containing beryl continues for about 610 m (2000 ft) and averages 8 m (25 ft) in width, averaging a minimum of 0.5% beryl and 0.25% columbite-tantalite. "The pale green beryl crystals vary from 1/2...to 10 or 12 inches across...A few are thin, long and pencil shaped". "The main beryl deposit occurs on Grace no. 1" (Davies, 1957). (See Fig. 1).

The main dyke on the Grace 1 claim (mapped over a length of 115 m) strikes 055° and dips 65° N at its west end, 040° and 85° NW at the east end. It consists mainly of a medium to coarse-grained, K-feldspar + quartz + mica zone which has been removed in the western pit. "In the eastern pit, a zone 2.4 m long, 1.8 m high, and 1.8 m wide, near the southern contact, consists of coarse, bluish quartz, large books of muscovite (up to 30 x 30 x 20 cm), and scattered large beryl crystals (up to 30 cm across); the zone is moderately radioactive" (Bannatyne, 1985, p. 29). Nb-rutile (Cerny and Turnock, 1971b) and monazite have been reported in this pegmatite. South of this dyke are pegmatite dykes (GL-2A) containing minor beryl (see Fig. 1).

A narrow dyke on the Grace No. 2 claim has one small area of abundant beryl. Euhedral beryl crystals (0.6 to 1 cm) of an apple green shade have been noted; some of the beryl is glassy and pale green. "The beryl crystals observed are either concentrated along the quartz + feldspar contacts or, more rarely, completely enclosed in either mineral." (Bannatyne, 1985, p. 30). Chryso-beryl is also reported to have been removed from this claim (Manitoba Mines Branch, Corporation File, Winnipeg River Tin Mines Limited). Some 'columbite-tantalite' crystals are associated with the beryl (Bannatyne, 1985). "Aquamarines of pleasing color are present in this dyke, but the crystals are fractured and cut by quartz and feldspar" (Springer, 1950). Minor tourmaline is present.

Associated minerals or products of value
columbium, tantalum, aquamarine.

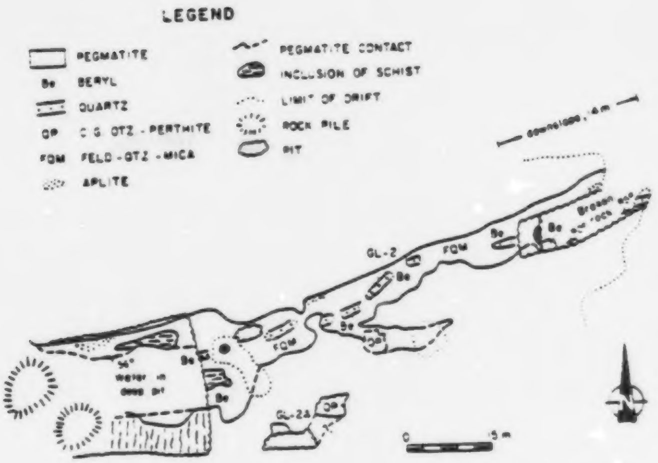

Figure 1 : Sketch map of Grace 1 pegmatite (GL-2 and GL-2A).
(source: Bannatyne, 1985:28).

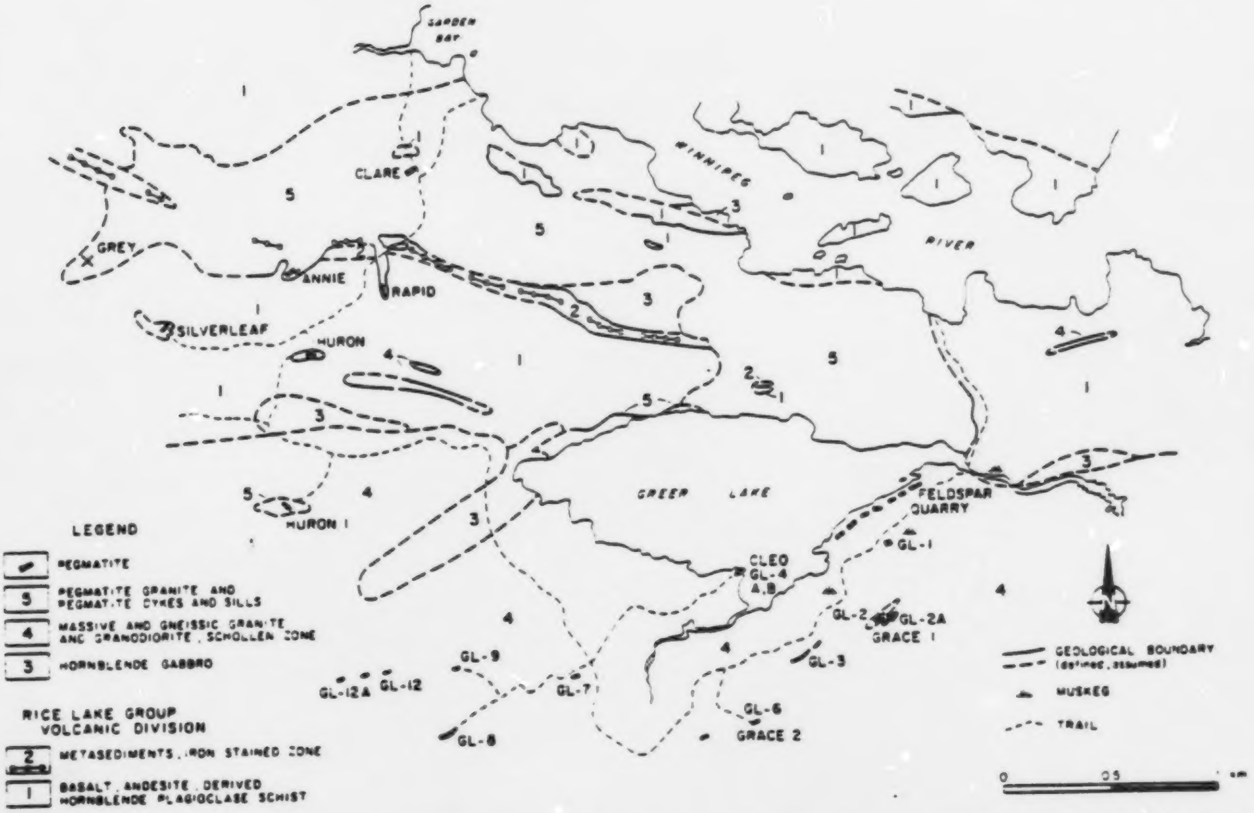

Figure 2: Pegmatites and pegmatitic granite in the Greer Lake area. (Geology adapted from Davies, 1957; base map from A22022-183 and adjacent airphotos). **(source: Bannatyne, 1985:22).**

DESCRIPTION OF DEPOSIT cont'd

"The dyke varies in width from 1 1/2 to 5 feet (0.5 to 1.5 m).....its exposed length is 300 feet (91 m)" (Davies, 1957). It strikes 082°, and dips 90° at the east end, 60° S near the west end, and almost 0° at the extreme west end of the exposure (Bannatyne, 1985). The pegmatite contains garnetiferous aplite in a 2 cm wide zone; pyrite and coarse black mica in the wall zone; coarse-grained quartz and microcline in the core (Bannatyne, 1985).

The GL-3 pegmatite (Fig. 2) is up to 8 m wide and 60 m long, and strikes 070° and dips steeply north; "Golden beryl is associated with muscovite" and "some green beryl is present in the quartz core" (Bannatyne, 1985, p. 30).

Pseudo-ixiolite and microlite were reported in all these pegmatites (GL-2, GL-2A, GL-3, GL-6; see Fig. 2).

HISTORY OF EXPLORATION AND DEVELOPMENT

The deposit is located 16 km east and 4.8 km north of Pointe du Bois and Provincial Road No. 313. It is immediately southeast of Greer Lake.

Part of the deposit was staked as Grace (38345) by Grace Casey in 1925 and assigned to Warner Lake Mines Limited in 1928. An unknown amount of work was performed on this claim from the time it was staked until it was leased in 1948. Grace Nos. 1 and 2 (W1095, 6) were staked north and south of Grace M.C. by Roy Pickard in 1932. After this date, the histories of the claims are similar and are treated as one.

Three pits were dug in 1933 on Grace Nos. 1 and 2 with approximately 2.8 m^3 (100 cu ft) removed. Seven holes (771 m; 2530 ft) may have been drilled in 1937 on the Grace claims in Zone No. 1 as it was called by the Dalhart Minerals Corporation Limited. In 1938, the claims were assigned to Winnipeg River Tin Mines Limited - renamed (1967) Spacemaster Minerals Ltd. In 1938, the claims were surveyed:

Grace	20.7 ha	Lot 184	Group 74	Plan 3695	(M-2021)
Grace No. 1	16.1 ha	Lot 197	Group 74	Plan 3708	(M-2034)
Grace No. 2	22.1 ha	Lot 198	Group 74	Plan 3709	(M-2033)

These claims were leased in 1948.

By 1956, they were assigned to Dalhart Minerals Corporation Limited (later: Dalhart Beryllium Mines & Metals Corporation Limited). In 1956, 3125 m^3 (110 370 cu ft) was removed from Grace No. 1, and 160 m^3 (5652 cu ft) of rock from Grace No. 2.

Major excavations of the Grace 1 dyke were done in two trenches (see Fig. 1): the north-east trench is 22 m long, 7.5 m wide; the west trench is 27 m long, 12 m wide at the base, 30 m wide at the top, and 5 - 7.5 m deep (Bannatyne, 1985, p. 28). On the Grace 2 claim, a beryl pegmatite was trenched over a length of 45 m (Bannatyne, 1985, p. 30).

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

Dykes on these two claims were bulk-sampled in 1957 (Non-confidential Assessment File No. 92363). The sampling results indicated a zone ("the No. 2 zone") containing 671 tonnes (739 tons) at 0.52% beryl on the Grace No. 1 claim.

It was reported that three previous drill-holes had intersected this zone at the 76-m (250-ft) level, and had also intersected pegmatite, with an average width of 5 m (17 ft), at the 46-m (150-ft) level, over an explored length of 122 m (400 ft). A continuation of the No. 2 zone on to another zone on the Grace claim, 122 m (400 ft) to the west, would result in a potential mineable area. Outcrops on the Grace and Grace No. 1 claims, in an area 914 m (3000 ft) long and 91 m (300 ft) wide, show a pegmatite area of 6070 m^2 (65 340 sq.ft.) (Non-confidential Assessment File No. 92363).

On the Grace No. 2 claim, a zone containing 91 tonnes (100 tons) at 2.84% beryl was indicated in the 1957 sampling results. The dyke on the property was reported to have a length of 52 m (170 ft), an average width of 0.9 m (3 ft), and an apparent dip of 50-60° S. The potential tonnage in this dyke was considered to be small (Non-confidential Assessment File No. 92363).

"A crushing plant and mill were built on the northeastern part of the Grace claim. By August 1957, 18 tonnes of hand-cobbed beryl crystals had been stockpiled, and a few thousand tonnes of pegmatite containing disseminated beryl had been milled. It was planned to extract beryllium from this material by a chemical process developed by Drs. G. Biermann and H. Gesser at the University of Manitoba. However, commercial production was never achieved." (Bannatyne, 1985, p. 27).

In the summer of 1958, geological mapping of the properties was done by Central Geophysics Ltd. at a scale of 1:2400 (Non-confidential Assessment File No. 92363). The next year, an airborne EM survey was done in the area under Airborne Permit No. 26 by Canadian Nickel Company Limited using an INCO dual frequency (IP/OP) system (Non-confidential Assessment File No. 90008).

In 1960, the following work was done by Canhart Mines Limited (Non-confidential Assessment File No. 92197):

Grace	- diamond drilling -	3 holes -	229 m (751 ft)
Grace No. 1	- diamond drilling -	11 holes -	835 m (2739 ft)
Grace No. 2	- diamond drilling -	3 holes -	198 m (649 ft)

On the Grace claim, one of the drill-holes intersected 7.5 m (24.5 ft) of pegmatite at a depth of 27 m (87.5 ft).

On the Grace No. 1 claim, a drill-hole intersected 10 m (34.3 ft) of pegmatite at a depth of 0.8 m (2.7 ft); another hole intersected monazite and tantalite at a drill depth of 100 m (328 ft). The highest beryllium assay reported from this claim was 0.25% beryl over a core length of 0.7 m (2.5 ft), at a drill depth 7 m (24.5 ft) (Non-confidential Assessment File No. 92197).

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

The claims were assigned to Canhart Mines Limited in 1961. Canhart Mines Limited (Inc. May 1960), formed by Canol Metal Mines Limited, had apparently acquired Dalhart Beryllium Mines & Metals Corporation Limited.

The claims were assigned to Tanlith Mines Limited and the lease was renewed in 1969. Northern Goldfields Exploration Limited (the Canadian subsidiary of The Goldfield Corporation of New York) in a 60/40 arrangement with Canhart Mines Limited, had formed Tanlith Mines Limited (Northern Miner, January 18, 1968). The leases were later converted back to claims.

In 1971, Hudson Bay Exploration and Development Company Limited did a helicopter EM and radiometric survey over the area under Airborne Permit No. 93 (Non-confidential Assessment File No. 91686).

Cerny and Turnock (1971b) reported an occurrence of "niobian rutile in aggregates of pseudo-ixiolite which has been partially replaced by microlite" in pegmatite GL2, and an occurrence of microlite in two other pegmatites (GL2A, GL3). A chemical analysis of pseudo-ixiolite indicated contents (in wt% recalculated to 100%) of 3.9% FeO, 12.6% MnO, 20.3% Nb_2O_5, 61.1% Ta_2O_5, 2.1% TiO_2 (Cerny and Turnock, 1971b). Na/Li ratios ranging from 3.68 to 8.31 were reported in chemical analyses of five samples (from pegmatites GL1, GL2, GL2A, GL3); minor Rb_2O, Cs_2O were also detected (Cerny and Turnock, 1975).

Tantalum Mining Corporation of Canada Limited (Tanco), also 60% controlled by Northern Goldfields, explored the claims in 1976. That summer, prospectors D. Sellers and J. Sopotiuk examined the area for the company; work done on the claims included trenching, blasting, and collecting of mica samples. Assay results are shown in Table 1.

Table 1. Mica analyses (Source: Non-confidential Assessment File No. 92198)

Claim	Sample No.	Rb_2O	Li_2O	Ga
Grace No. 1	1228 (muscovite)	0.59	0.36	0.003
	1229 (biotite)	0.61	0.88	N.D.
Grace	1230	0.51	0.20	0.005
	1231	0.28	0.16	N.D.
	1232	0.37	0.29	N.D.
Grace No. 2	1233 (biotite)	0.28	0.06	N.D.

It was concluded that beryl was not in sufficient quantities for production, and that economic tantalum and lithium mineralization was not found (Non-confidential Assessment File No. 92198). The Grace No. 1 and 2 claims were cancelled in January 1979; the Grace claim was cancelled soon after (Mining Recording, Claim Map, circa 1980).

In December 1980, Wimp 6 (CB 12761) covering 195 ha was staked by H. Larsen (assisted by H. Nilsson and S. Smith) for Tanco, which is owned by Hudson Bay Mining and Smelting Co., Limited (37.5%), Kawecki Berylco Industries (37.5%) and the Manitoba Government.

Table 2. Chemical analyses of mineral specimens from the Greer Lake area
(from, Cerny et al., 1986)

Mineral	Sample No.	Ta_2O_5	Nb_2O_5	TiO_2	SnO_2	MnO	FeO	Fe_2O_3	CaO	Na_2O	F	Total
columbite-tantalite	GL2A-18	64.0	17.2	2.3	0.7	11.0	4.0		0			99.2
microlite[1]	GL-2-2	69.0	3.6	2.9	0.5	0.3	0.7		13.6	2.2	2.3	
microlite	GL3	64.9	10.3	2.7	2.0		0.4		12.6	3.5		96.4
rutile	GL3	34.8	8.3	43.2	2.2		4.2	8.2				100.9
ixiolite	GL3-15-2	66.6	9.7	3.1	4.6	5.4	6.9	2.5				98.8
ixiolite	GL3-15-8	66.6	9.3	3.5	5.2	3.9	9.1	0.7				98.3

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[1] (Cerny et al., 1981)

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

Reconnaissance lithogeochemical surveys were done on the Wimp claim group in 1981. It was reported that 270 samples were collected from an area south of the old Grace claims in 1981, followed by 165 samples in 1986 (Non-confidential Assessment File No. 92715). No significant lithia anomalies were found. On February 6, 1987, the Wimp 6 claim was cancelled. Chemical analyses of mineral specimens from various pegmatites in the area were done by Cerny et al.(1986) (See Table 2).

HISTORY OF PRODUCTION

"By the end of 1956 about 25 tons (23 tonnes) of beryl were reported to have been hand sorted from the pegmatite." (Davies, 1957).

"Stockpiles (on Grace 1 claim) contain pink feldspar, mainly microcline, and beryl crystals (both in feldspar and as individual crystals associated with muscovite)" (Bannatyne, 1985, p. 29).

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Manitoba Mines Branch:
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b Corporation Files; Winnipeg River Tin Mines Limited.

c Mining Engineering Files; Dalhart Beryllium Mines & Metals Corporation Limited; Winnipeg River Tin Mines Limited.

d Unpublished Information Files; 52L/5,6.

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MAP REFERENCES

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Map 1194 G, Ryerson Lake (Aeromag), Scale 1:63 360, Manitoba Mines Branch and Geological Survey of Canada.

Map 2059, Oiseau River area (Geol), Scale 1:63 360 - Accompanying Report by Wright (1926), Geological survey of Canada.

Map 274A, Oiseau Sheet (Geol), Scale 1:63 360 - Accompanying Marginal Notes by Wright and Stockwell (1932), Geological Survey of Canada.

Map 49-7, Cat Lake-Winnipeg River area (Geol), Scale 1:63 360 - Accompanying Report by Springer (1950), Manitoba Mines Branch.

#Map 56-1a, Shatford Lake-Winnipeg River area (Geol), Scale 1:12 000 - Accompanying Report by Davies (1957), Manitoba Mines Branch.

Preliminary Map 1972 F-1, Bird River area (Geol), Scale 1:50 000, by D.L. Trueman, Manitoba Mines Branch.

Preliminary Map 1976 F-7, Ryerson Lake (Geol), Scale 1:50 000, by D.A Janes, Manitoba Mines Branch.

Preliminary Map 1978 F-2, Pointe du Bois (west part) (Geol), Scale 1:250 000, by D.A. Janes, Manitoba Mines Branch.

Map ER80-1-3, Winnipeg River pegmatite district (structural geology), Scale 1:50 000 - Accompanying Report by Cerny et al.(1981), Manitoba Mineral Resources Division.

Map ER80-1-1, Cat Lake-Winnipeg River pegmatite field (Geol), Scale 1:100 000 - Accompanying Report by Cerny et al.(1981), Manitoba Mineral Resources Division.

Map (unpublished), Grace, 38345, Lot 184, Group 74, Plan 3695, (Survey, 1938), Scale 1:2400, Mining Recording, Manitoba Mines Branch.

Map (unpublished), Grace No. 1, W1095, Lot 197, Group 74, Plan 3708, (Survey, 1938), Scale 1:2400, Mining Recording, Manitoba Mines Branch.

Map (unpuolished), Grace No. 2, W1096, Lot 198, Group 74, Plan 3709, (Survey, 1938), Scale 1:2400, Mining Recording, Manitoba Mines Branch.

Claim Map Series SW 6, 52L, Scale 1:31 680, circa 1974, Mining Recording, Manitoba Mines Branch.

NAME OF PROPERTY **N.T.S. AREA** 52L/6SW **FILE NO.** 177
Grace **REF.** BE 2

REMARKS

1. This claim is in an area which has 25 leased mining claims, around Greer Lake and is near the Huron mining claim which is well known for its beryllium deposit.
2. The 90 m dyke on Grace No. 2 claim 'has been known as the "Jewel vein" (Springer, 1949) and as the "Gem vein".' (Bannatyne, 1985, p. 30).
3. Of 150 pegmatites in the area explored by Dalhart Minerals Corp., 49 apparently contained beryl (Cerny and Turnock, 1971a in Bannatyne, 1985, p. 27).

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MANITOBA ENERGY AND MINES **MINERAL INVENTORY FILE NO.** 212

PRODUCT Tin **N.T.S. AREA** 52L/6 NW **REF.** SN 5

NAME OF PROPERTY:
Odd

OWNER OR OPERATOR AND ADDRESS
1988-Tantalum Mining Corporation
of Canada Limited
Box 2000
Lac du Bonnet, Manitoba
ROE 1A0

OBJECT LOCATED: Centre of Claim **MINING DIVISION** Winnipeg

Lat. 50° 26.7' Long. 95° 21.6' UNCERTAINTY: 500 m

Sec. Tp. 17 R. 16 EPM

DESCRIPTION OF DEPOSIT

The deposit is situated in an aplite dyke which intrudes Precambrian metasedimentary schists and metavolcanics (greywacke and minor tuffs) of the Rice Lake Group. "The dyke strikes N70°W and is vertical ranging in thickness from 2 to 11 feet (0.6 to 3 m).....The contacts (with the country rocks) are locally discordant.....The eastern end of the dyke...is white albite exposed in outcrop...for a length of 320 feet (98 m), over which the average width is 4.7 feet (1 m). West of this interval of 460 feet (140 m) in which the dyke is covered with overburden,...it reappears...and tapers to an end. In the west...the dyke grades...(in) to pink pegmatite. Small cassiterite crystals are distributed through the (aplite)...the cassiterite is more uniformly distributed than in the pegmatites." (Bateman, 1943). The dyke in the west is exposed over a length of 110 m, and a width of 3 m at its east end. It strikes 270°, dips 85° S. Cassiterite crystals up to 0.6 cm (1/4") in size with tin contents estimated at less than 0.5% were reported in the "west end of the exposure" (Manitoba Mines Branch, Corporation File, Northern Tin Mines Limited, 1941).

In the eastern outcrop, the grain size and quantity of cassiterite is reported to be directly proportional to that of quartz. The quartz eyes and cassiterite occur mainly in the north half of the dyke, and tend to be arranged in "long, thin lenses or streaks in the albitite" (Bateman, 1943 in Bannatyne, 1985, p. 59).

The pegmatite has also been described as a "2 phase white pegmatite" with coarse-grained muscovite, grey quartz, microcline-perthite and allute in one zone; and aplitic albite, quartz, muscovite, black tourmaline and cassiterite in another zone (Non-confidential Assessment File No. 91556).

Accessory minerals in the dyke include: small pink garnets, apatite, traces of indicolite (tourmaline), topaz, and fluorite. "Lumps of glassy quartz" have been reported. Tantalite may occur in solid solution in the tin.

Associated minerals or products of value
tantalum, niobium, beryllium.

HISTORY OF EXPLORATION AND DEVELOPMENT

The deposit is located about 1219 m north of the centre of Rush Lake. It is about 1.6 km south of Provincial Road No. 315.

In 1928 part of the deposit was staked as Annex No. 1 (10286) by H. Standish and the remainder as Stannite No. 2 (9872) by E.C. Drawson. "Cassiterite crystals were discovered in the albitite phase of the dyke in 1929 by "Happy" White, P. Osis, and K.E. Miller" (Bannatyne, 1985, p. 59). Two pits were dug in 1929 and 1930 with a total of 6 m^3 (219 cu ft) of rock removed. This claim was restaked as Stannite No. 2 (W564) by S. Miller in 1932.

The Odd M.C. (W8645) was staked in 1937 by Sigurborg Miller for Kenneth E. Miller. "Northern Tin Mines Limited was later formed on the Odd, Cubo, Malaya....the old Rush and Stannite claims." (Bateman, 1943). Northern Tin Mines Limited, which was controlled by Perserverance Mining and Development Company, Limited, had an unrecorded interest in the Odd claim. In 1938-39 trenching was completed on the claim with 17 m^3 (604 cu ft) removed from 7 pits. "In the winter of 1939-40 the company drilled 7 shallow holes for a total length of 600 feet (183 m) with an x-ray machine." (Bateman, 1943). Assays of 0.29%, 0.31%, 0.40%, 0.39% and 0.47% tin were reported from 5 of the 7 drill holes, according to Bateman; the other 2 holes to the west did not intersect the pegmatite (Bannatyne, 1985, p. 59). The deposit was mapped at 1:480 and 1:600. Analysis of 13 samples taken from the exposed eastern part of the dyke over a length of 110 m (360 ft), "indicated an average of 0.35% tin over a width of 143 cm (4.7 ft) (range: 0.18 to 0.59% tin; 72 to 394 cm)" (Bannatyne, 1985, p. 59).

Northern Tin Mines Limited sent a half ton (0.5 tonnes) bulk sample to Ottawa for testing: assay results indicated 0.30% tin, and 0.23% tantalum-columbium oxides. Another bulk sample was shipped to the University of Toronto where C. Godefroy did tests on it: a sample of the resulting concentrate assayed by Ledoux and Company returned 45.6% tin and 1.93% tantalum (October, 1942 report; in Manitoba Mines Branch, Corporation File, Northern Tin Mines Limited).

In 1940, Odd was assigned to M.C. Van der Voort. Van der Voort reported doing 369 m (1212 ft) of diamond drilling on the Odd dyke (Non-confidential Assessment File No. 91448). In 1942, 981 m (3219 ft) of diamond drilling was completed on the claim, in 9 holes. In other reports, footage was reported to be 677 m in 9 holes (Bateman, 1943; Bannatyne, 1985; Non-confidential Assessment File No. 91480). The drilling was done by the Department of Mines and Resources which was looking for a strategic deposit of tin for war time use. Six holes were drilled to intersect the dyke at 31 m (100 ft). These outlined the extent of the dyke to be 122 m (400 ft) compared to 98 m (320 ft) exposed at the surface. These showed an average of 0.18% tin over 0.5 m (1.7 ft). Three deeper holes were drilled to intersect the zone at 61 m (200 ft). These showed a narrower width and lower tin content than the surface (0.17% over 0.5 m (1.7 ft)); according to Bannatyne (1985), the dyke averaged 0.15% tin over a width of 45 cm. "It was concluded the dyke consisted of 11 350 tonnes of rock, containing 36 tonnes of tin, to a depth of 30 m (average grade of 0.32% tin)" (Bannatyne, 1985). The deposit was not considered for further development. It was optioned by God's Lake Gold Mines Limited in 1943 but the option was dropped the next year with little work having been done.

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

In 1949, the area was restaked under B.B. No. 3 (W17617) by P. Osis. The claim was cancelled in November 1952.

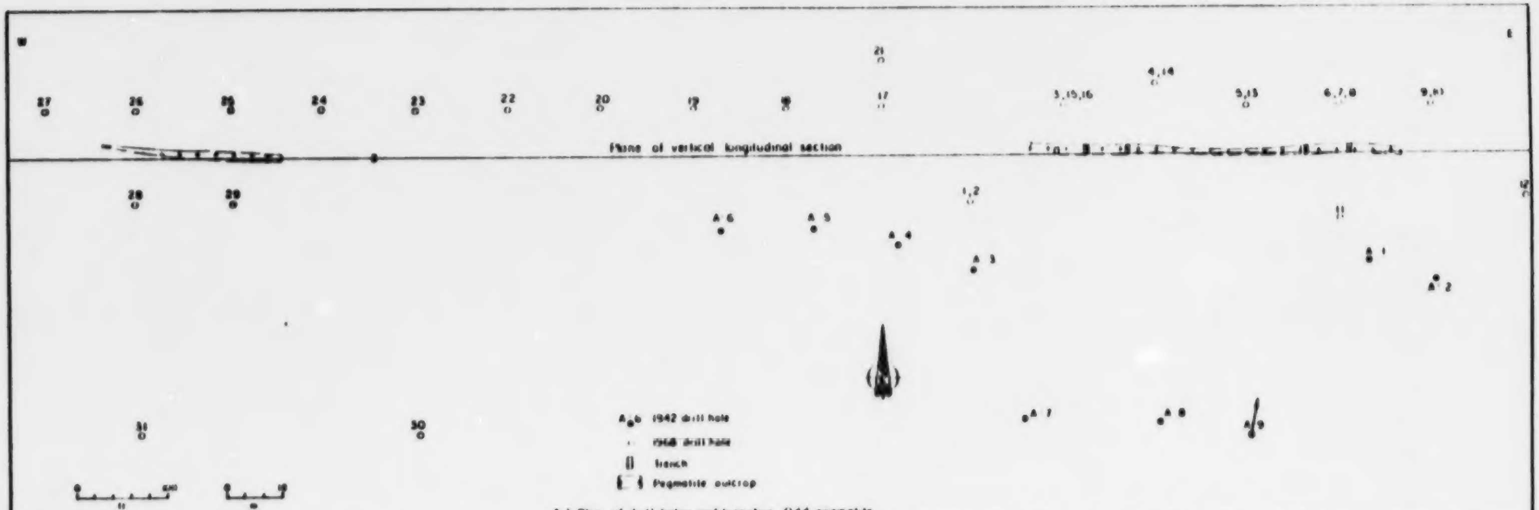
In August 1957, the Tub No. 36 (W28750) and Tub No. 37 (W28738) claims were staked by F. Brown and P. Chorney, respectively. The claims were restaked as Tub No. 6 (W30704) and Tub No. 11 (W30709) by John Cure in October 1958 and assigned to Frank Brown in September 1959. In 1959, Canadian Nickel Company Limited did an airborne EM survey in the area under Airborne Permit No. 26, using the INCO dual frequency (IP/OP) system (Non-confidential Assessment File No. 90008). The claims were cancelled on November 5, 1962.

The Bernic No. 10 (W39359) and No. 11 (W39789) claims were staked by J. Donner in 1966, and assigned to Samuel Ciglen in 1967. That year, trenching, bulk-sampling, and detailed mapping was done on the Bernic No. 10 claim containing the 'Odd' dyke and on the Bernic No. 12 claim containing the 'Bernic' or 'Odd-West' dyke (see: 52L/6 SN 3) (Non-confidential Assessment File No. 91556).

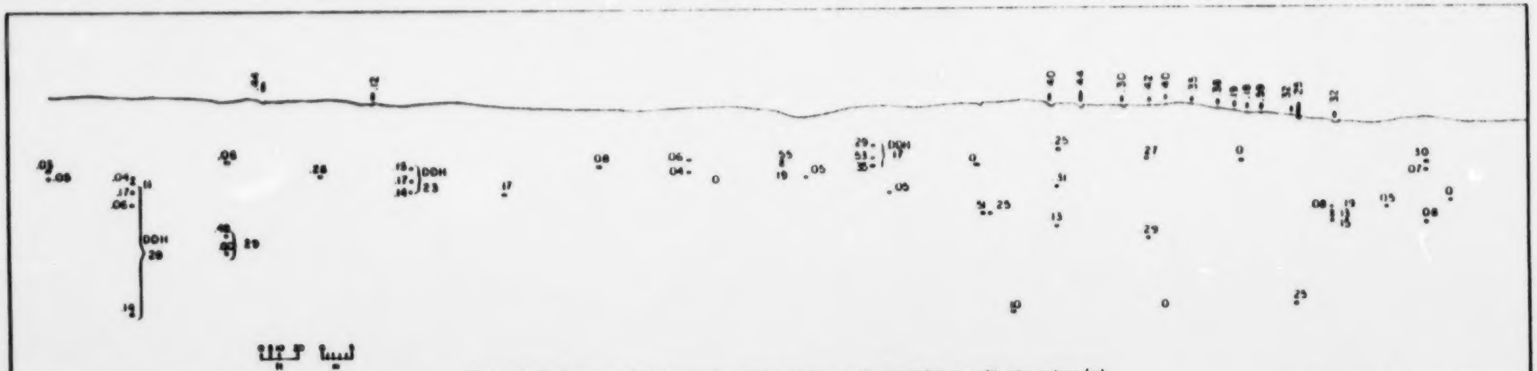
The Odd dyke was drilled in 1967. "The drilling extended from 60 m east of the eastern outcrop, westward for 486 m, with holes at approximately 30 m intervals" (Bannatyne, 1985, p. 59). Twenty-three holes totalling 1078 m (3537 ft) were drilled on the Bernic No. 10 claim, and eight holes totalling 616 m (2020 ft) on the Bernic No. 11 claim; drill depths ranged from 16 to 107 m (52-351 ft) on the Bernic 10 claim, and from 31 to 172 m (100-565 ft) on the Bernic 11 claim (Non-confidential Assessment File No. 91446). Drill-core assays returned values of 0.01-0.04% Ta_2O_5 and a maximum value of 0.07% Ta_2O_5. Assays of 0.01% BeO were reported in two drill-holes. Tin assays are shown in Fig. 1.

The claims were assigned to Bernic Lake Mines Limited c/o Tantalum Mining Corporation of Canada Limited (Tanco) in 1968. Northern Goldfields Investment Limited (Canadian subsidiary of The Goldfield Corporation, N.Y.) had apparently joined with Barrington Exploration Corporation Limited in a 60/40 arrangement to form Bernic Lake Mines (Northern Miner, January 18, 1968). In 1968, geological mapping at a scale of 1:2400, some soil sampling, and a magnetometer survey using the Sharpe MF-1 fluxgate magnetometer, was done on the Bernic claims by A.C.A. Howe International Limited for Bernic Lake Mines Limited (Non-confidential Assessment File No. 91556). Until 1968, A.C.A. Howe International Limited apparently held an interest in the Bernic claims.

In 1969, Keevil Mining Group Limited did a radiometric survey under Airborne Permit No. 82, recording one flight line in the area (Non-confidential Assessment File No. 91677). A helicopter EM and radiometric survey was done in the area by Hudson Bay Exploration and Development Company Limited under Airborne Permit No. 93, in 1971 (Non-confidential Assessment File No. 91686). Bernic Nos. 10 and 11 were surveyed in 1973 as Lot 2357, Group 124, Plan 17807.



A) Plan of drill holes and trenches, Odd pegmatite



B) Longitudinal section of Odd pegmatite, with Sn analyses and projected true width intersections (—)

Figure 1 Odd dyke, plan of drill holes and section showing Sn analyses (Source: Dunnalyne, 1955, 55)

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

In December 1973, CB 5961 (117.3 ha) was issued to Tanco. The next year, an airborne electromagnetic and magnetometer survey using the Aerodat (IP/OP) system, was flown by Falconbridge Nickel Mines Limited under Airborne Permit No. 116 (Non-confidential Assessment File No. 91564). A chip sample taken across the dyke by Mulligan (1975, p. 100) returned a content of 0.08% tin.

The claim block was cancelled on September 22, 1983. The following restakings occurred:

Claim	Acreage	Issue Date	Staker	Owner
Odd 1 (W48846)	87 ha	Nov. 1983- Jan. 1986.	W.C. Hood (assisted by R.Karklin)	W.C. Hood
Tack (W50767)	87 ha	Jan. 1986- Mar. 1988.	W.J. Conley	Esso Resources Canada Limited
Oddity (W52102)		May, 1988- (pending recording)	W.C. Hood	Tanco

REFERENCES

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Cerny, P., Trueman, D.L., Ziehlke, D.V., Goad, B.E. and Paul, B.J., 1981, The Cat Lake-Winnipeg River and the Wekusko Lake pegmatite fields, Manitoba; Manitoba Department of Energy and Mines, Mineral Resources Division, Economic Geology Report ER80-1, p. 85-87, 104, 125, 152.

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- b Annual Reports; 13th, p. 71.
- c Corporation Files; +Northern Tin Mines Limited.

Mineral Development Sector, Corporation Files: Northern Tin Mines Limited; Tanaur Yellowknife Mines Ltd.

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*Map 52L/6, West, Ryerson Lake, (Topographic), Scale 1:63 360 - Mines and Technical Surveys, Canada.

Map 1194 G, Ryerson lake, (Aeromagnetic), Scale 1:63 360 - Manitoba Mines Branch and Geological Survey of Canada.

Map 36252G, Pointe du Bois, (Airborne Gamma-ray Spectrometry), Scale 1:250 000, Geological Survey of Canada, Province of Manitoba, Province of Ontario (1976).

Map 2059, Oiseau River area, (Geology), Scale 1:63 360 - Accompanying Report by Wright (1926), Geological Survey of Canada.

Map 274 A, Oiseau Sheet, (Geology), Scale 1:63 360 - Accompanying Marginal Notes by Wright and Stockwell (1932), Geological Survey of Canada.

MAP REFERENCES cont'd

Map 49-7, Cat Lake-Winnipeg River area, (Geology), Scale 1:63 360 - Accompanying Report by Springer (1950), Manitoba Mines Branch.

Map 54-1, Bird Lake area, (Geology), Scale 1:12 000 - Accompanying Report by Davies (1955), Manitoba Mines Branch.

Map, Bernic Group, (Geology), Scale 1:2400, by A.C.A. Howe International Ltd.; in Non-confidential Assessment File No. 91556, Manitoba Mines Branch.

Preliminary Map 1972 F-1, Geological compilation map of the Bird River area, (Geology), Scale 1:50 000, by D.L. Trueman, Manitoba Mines Branch.

Preliminary Map 1975 F-9, Bird River area East, (Geology), Scale 1:31 680, by D.L. Trueman, Manitoba Mines Branch.

Map ER80-1-1, Cat Lake-Winnipeg River pegmatite field, (Geology), Scale 1:100 000 - Accompanying Report by Cerny et al.(1981), Manitoba Mineral Resources Division.

Map ER80-1-3, Winnipeg River pegmatite district, (Structural Geology), Scale 1:50 000 - Accompanying Report by Cerny et al.(1981), Manitoba Mineral Resources Division.

#Claim Map Series NW 6, 52L, Scale 1:31 680, circa 1944, Mining Recording, Manitoba Mines Branch.

REMARKS

1. The pegmatite is located 1600 m north of Rush Lake (Bannatyne, 1985, p. 59).

2. Since 1967, the area appears to have fallen under claims Bernic No. 17 (W40009), Bernic No. 16 (W40008), Bernic No. 10 (W39359) and Bernic No. 19 (W40011) according to Manitoba Mines Branch, Claim maps 52L/6NW (circa 1967, 1968, 1970, 1973). The Bernic No. 16, 17, 19 claims were staked by Edward Donner in March 1967, and were assigned to Samuel Ciglen later that year. The area was finally recorded under the Bernic No. 10 (W39359) claim (Claim map 52L/6NW, circa October 1973). The Bernic 16, 17, 19 claims were assigned to Bernic Lake Mines in October, 1970; Bernic 16 and 17 were cancelled in 1972, Bernic No. 19 in 1973.

3. The Odd-West dyke (see: 52L/6 SN 3) also occurs in the western parts of the CB 5961, Odd 1, Tack, and Oddity claims.

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By Date	02-68	11-73	07-88

MANITOBA ENERGY AND MINES **MINERAL INVENTORY FILE NO.** 119

PRODUCT Lithium **N.T.S. AREA** 52E/11 NW **REF.** LI 1

NAME OF PROPERTY:
Lucy No. 1

OWNER OR OPERATOR AND ADDRESS
1988 - Tantalum Mining
Corporation of Canada,
Limited
Box 2000
Lac du Bonnet, Manitoba
R0E 1A0

OBJECT LOCATED: Centre of claim **MINING DIVISION** Winnipeg

Lat. 49° 38.96' Long. 95° 28.37' **UNCERTAINTY:** 500 m

L.S.13 Sec. 10 Tp. 8 R. 15 EPM

DESCRIPTION OF DEPOSIT

The deposit is situated within a 19-m (63-ft) long pegmatite dyke intruding Archean metavolcanics. The dyke strikes north and dips gently east. It is "exposed along a cliff face over a length of 20 m and a height of 3 m" (Bannatyne, 1985). The exposed portion of the Lucy pegmatite actually forms an apical part of a "large, hummocky, subhorizontal pegmatite sheet" that dips to the south, and that has been outlined over an area 150 m wide and 230 m long (north-south) by drilling (Bannatyne, 1985).

Its bulk is a fine-grained plagioclase-quartz-muscovite pegmatite. The dyke is zoned with an upper or hanging wall zone of abundant coarse black tourmaline, pink feldspar, quartz, muscovite, and a lower 13.7-m (45-ft) long, 1.5-m (5-ft) wide lenticular zone of very coarse green spodumene randomly orientated in quartz. "Spodumene crystals up to 50 cm long are greyish white where fresh." (Bannatyne, 1985).

"The dyke is partly surrounded by patchy pink and white aplite containing nests and stringers of bright blue tourmaline" (Mulligan, 1965, p. 66-67). Pale milky green beryl crystals up to 12 mm across, fine grains of greenish apatite (Bannatyne, 1985), fluorite, pale silvery lithium mica, pyrophyllite (Davies et al., 1962), are also present.

HISTORY OF EXPLORATION AND DEVELOPMENT

The deposit is located approximately 134 km east of Winnipeg; about 0.8 km north of the Trans-Canada Highway and about 4.8 km northwest of the village of Glenn.

The deposit was staked for Lucy Black by Hans Apolony as Lucy No. 1 (W12022), area 7.18 ha (17.75 ac), in 1943. Trenching was done on the property and in 1946 it was assigned to Gladys S. Ruddell, who obtained a 21 year lease (M-3300) in 1952. In 1953 the property was assigned to East Braintree Lithium

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Associated minerals or products of value
beryllium.

1670'0'

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

Corporation Limited who optioned it to Arthur J. McLaren of North American Rare Metals Limited. Diamond drilling on the property indicated 226 860 tonnes (250 000 tons) grading 1.75% Li_2O (Northern Miner, May 18, 1961) in several 8-15 m (25-50 ft) wide flat to gently dipping dykes. Forty-eight holes totalling 2986 m had been drilled in 1955, with drill depths of up to 80 m (Bannatyne, 1985). Drill holes #8, 9, and 10 indicated a width of 9.5 m (31 ft), assaying 1.55% Li_2O. Hole #14 intersected 12.6 m (41.4 ft) containing 1.30% Li_2O. Hole #24 indicated "2.16% Li_2O over 12.2 m, of which the first 4.57 m was 3.51% Li_2O" (Bannatyne, 1985).

In 1957 the property and option on it were assigned to Whiteshell Lithium Mines Limited (NPL), which was a subsidiary of North American Rare Metals Limited. Laboratory tests and a re-examination of the drill core were planned in 1961. Davies et al.(1962) noted that "Spodumene constitutes up to 25 per cent of the rock in the south portion of the dyke".

The claim was cancelled in 1978. The following restakings have occurred:

Claim Name	Year	Acreage	Staker	Owner
CB 7100 (Falcon 1)	1979-81	259 ha	P. Dunlop	W. Bruce Dunlop Limited
W46548 (Garry 1)	1981	195 ha	H. Nilsson G. Nilsson	Tantalum Mining Corporation of Canada Limited.

REFERENCES

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Davies, J.F., Bannatyne, B.B., Barry, G.S. and McCabe, H.R., 1962, Geology and mineral resources of Manitoba; Province of Manitoba, Department of Mines and Natural Resources, Mines Branch, p. 35.

Financial Post Survey of Mines; 1956-p. 363; 1957-p. 160; Maclean-Hunter Publishing Company Limited.

Manitoba Mines Branch:
a Corporation Files; North American Rare Metals Limited.

b Non-confidential Assessment Files; File No. 92160.

+Mulligan, R., 1957, Lithium deposits of Manitoba, Ontario and Quebec; Geological Survey of Canada, Paper 57-3, p. 17-18.

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Springer, G.D., 1952, Geology of the Rennie-West Hawk Lake area; Manitoba Mines Branch, Publication 50-6, p. 19.

MAP REFERENCES

*Map 52E/11, West, Waugh (Topo), Scale 1:50 000, Mines & Technical Surveys, Canada.

Map 1191 G, Waugh (Aeromag), Scale 1:63 360, Manitoba Mines Branch and Geological Survey of Canada.

Map 35552G, (airborne gamma-ray spectrometry), Scale 1:250 000, Geological Survey of Canada, Province of Manitoba, Province of Ontario (1976).

Map 37-4, Boundary area (Geol), Scale 1:126 720, by J.S. DeLury, Manitoba Mines Branch.

Map 50-6, Rennie-West Hawk Lake area (Geol), Scale 1:63 360 - Accompanying Report by Springer (1952), Manitoba Mines Branch.

Map 1207A, Lithium in Canada (Metallogenic), Scale 1:7 603 200 - Accompanying Report by Mulligan (1965), Geological Survey of Canada.

Preliminary Map 1975 F-8, Southeast Manitoba (Geol), Scale 1:126 720, by C.F. Lamb, Manitoba Mines Branch.

Preliminary Map 1976 F-1, Waugh (Geol), Scale 1:50 000, by D.A. Janes, Manitoba Mines Branch.

Preliminary Map 1978 F-1, Kenora (Geol), Scale 1:250 000, by D.A. Janes, Manitoba Mines Branch.

#Claim Map Series NW 11, 52E, Scale 1:31 680, circa 1973, Mining Recording, Manitoba Mines Branch.

NAME OF PROPERTY Lucy No. 1	**N.T.S. AREA** 52 E/11 NW	**FILE NO.** 119 **REF.** LI 1

REMARKS:

1. In a small water-filled pit, 91 m (300 ft) farther north, are pieces of spodumene, white amblygonite, pale lilac mica, and beryl.
2. The pegmatite is located 885 m at 070° from the Artdon pegmatite (52E/11 LI 2).

Comp./Rev.			JB	PA
By Date	02-68	02-69	07-73	05-88

PRODUCT Tin **N.T.S. AREA** 52 L/6 NW **REF.** SN 1

NAME OF PROPERTY:
Tin Island (Mark M.C.)

OWNER OR OPERATOR AND ADDRESS
1988 - S. J. Lesavage
150 Robindale Road
Winnipeg, Manitoba
R3R 1G7

OBJECT LOCATED: Centre of Tin Island **MINING DIVISION** Winnipeg

Lat. 50° 23.7'	Long. 95° 28.8'	UNCERTAINTY: 100 m
Sec. 33	Tp. 16	R. 15 EPM

DESCRIPTION OF DEPOSIT

The area is underlain by Precambrian rocks of Archean age consisting of both metavolcanics and metasediments of the Rice Lake Group and later intrusives ranging from basic to acidic in composition. The volcanic rocks are basaltic and andesitic in composition and are in part silicified and granitized. "Intrusive activity in the immediate area consists of granites and granodiorites with late stage pegmatites cutting all other rocks" (Non-Confidential Assessment File No. 91299). The pegmatite lies along the contact of basalt and the garnetiferous band that lies between the basalt and silicified rock (Davies, 1957). It dips steeply to the north, and varies from 1.5 to 4 m (5-14 ft) in width. The pegmatite is a pink albite pegmatite consisting of quartz, albite, tourmaline, biotite and pale yellow mica with some cassiterite.

On the surface, cassiterite was reported in a quartz-muscovite phase, in crystals up to 0.6 cm (1/4 inch) long; at depth, it was found on the 30 m level, in the 'normal feldspar' pegmatite (Wright, 1932 in Bannatyne, 1985). Beryl, garnet, magnetite, chalcopyrite and 'lithia minerals', have also been reported (Manitoba Mines Branch, Corporation File, Manitoba Tin Company, Limited).

HISTORY OF EXPLORATION AND DEVELOPMENT

The Shatford Lake deposit was first found by Ken Miller in 1924 on a small island, now referred to as Tin Island, near the southeast corner of Shatford Lake.

Miller staked several claims in the area but not directly over the initial occurrence. This area was apparently not staked until 1927 when G.W. Mark staked the Mark M.C. (41823). The claim was assigned to the Manitoba Tin Company Limited, a subsidiary of Manitoba Basin Mining Co. Limited.

Associated minerals or products of value
tourmaline, fluorite, (beryl, lithium, tantalum, niobium).

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

The lake was lowered 46 cm (18 inches) by blasting rocks at its outlet, and a 3 x 1.2 x 1.2 m (10 ft long, 4 ft wide, 4 ft deep) pit was excavated (Manitoba Miner, November 15, 1929); a 5 m (15 ft) exploratory shaft was sunk on the island.

In 1929, the Manitoba Tin Company Limited commenced sinking a shaft on another island at a point 49 m (160 ft) to the east of the original discovery. By the summer of 1929 the shaft had been sunk to a depth of 34 m (112 ft) and a cross-cut at the 31 m (100 ft) level had been driven northwest towards the original discovery. A total of 51 m (167 ft) of cross-cutting and 87 m (285 ft) of drilling was done. Some trenching and prospecting was done by twenty men employed by the firm. Eleven samples from the area returned assay values ranging from 0.31% to 31% tin (assays were done by Milton Hersey & Co., and Ledoux & Co.).

Another shaft was sunk on the mainland at a point 671 m (2200 ft) east of the island shaft. Operations ceased in October 1929 as the cassiterite content was found to be small (Davies, 1957).

The Flynn M.C. (10566) was apparently staked over a large portion of the Mark M.C. by D. Shodhal in 1928. As both claims were soon controlled by the Manitoba Tin Company Limited, no disputes were filed. However, due to this discrepancy, the work attributed to the Mark M.C. may well have been on the Flynn M.C., and vice versa. Both claims were cancelled in 1931. This area was restaked as Shatford No. 1 (W8230) by Felix Aho in 1937 and was cancelled in 1939. W.J. Conley restaked the area as Bernic No. 12 (W9483) in 1939. The claim was assigned to Thomas Mungovan in 1940 and was cancelled in 1944. The Margo No. 1 (W15429) was staked by George Worobes in 1947 and in 1948 he assigned a 1/2 interest in the claim to Matthew Richardson. This claim was cancelled in 1950. In 1951 M.G. Smerchanski staked the M.G.S. No. 3 claim (W18389) but reported no work and the claim was cancelled in 1952.

In 1954 the Dyke No. 12 (W20605) was staked by J.J. Papineau and assigned to Contact Minerals Limited in 1956. Considerable surface exploration was done and some 612 m^3 (21 632 cu ft) of material were removed in 1955. An airborne EM survey was done in the area by Canadian Nickel Company Limited under Airborne Permit No. 26, using the INCO dual frequency (IP/OP) system (Non-Confidential Assessment File No. 90008). The claim was assigned to Petromines Limited (formerly, McKenzie Oil and Gas Company, Limited) in 1966 and they engaged Velocity Surveys Limited, of Calgary, to do some detailed work for them. The work consisted of the preparation of a geologic map of the Dyke group of claims (Scale 1:4800). Detailed mapping (Scale 1:1200) of the Dyke No. 12 claim area was also done (Non-Confidential Assessment File No. 91299). This work was completed in 1968 and the claim was cancelled in 1970.

In 1971, Hudson Bay Exploration and Development Company Limited did a helicopter EM and radiometric survey in the area, under Airborne Permit No. 93 (Non-Confidential Assessment File No. 91686).

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

In 1971 a claim block (CB 3798) covering 125.4 ha was staked by Stephen J. Lesavage (President of Tudale Exploration Ltd.) and assigned to Tudale Exploration Ltd. in 1972. Tudale Exploration Ltd. had completed some 155 m (509 ft) of diamond drilling plus an electromagnetic (DPM-1) and magnetic survey (see Non-Confidential Assessment File No. 92194). It was also reported that Scope Resources Limited had done a horizontal loop and a DPM-1 survey in the area (Northern Miner, January 11, 1973). Scope Resources Limited could apparently earn a 60% interest in the Shatford Lake claims by spending $300 000 on exploration and development to 1976 (Financial Post, 1974).

In 1979, the claim was restaked as CB 9715 (Pap #3), area 98 ha, by S.J. Lesavage. Microprobe analyses of cassiterite indicated contents in wt% of 95.4% SnO_2 and 2.3% Ta_2O_5 in one sample; and 89.8% SnO_2, 4.8% Ta_2O_5, 2.4% Nb_2O_5 in another sample from the area (Cerny et al., 1981, p. 119). The claim was optioned to Esso Resources Canada Limited in 1986-1987.

REFERENCES

Bannatyne, B.B., 1972, Pegmatite project; in Summary of Geological Fieldwork 1972; Manitoba Department of Mines, Resources and Environmental Management, Mines Branch, Geological Paper 3/72, p. 50-53.

Bannatyne, B.B., 1985, Industrial minerals in rare-element pegmatites of Manitoba; Manitoba Energy and Mines, Geological Services, Economic Geology Report ER84-1, p. 3, 34.

Bateman, J.D., 1943, Tin in Manitoba; Canadian Mining Journal, v. 64, No. 5, p. 273-278.

Cerny, P., Trueman, D.L., Ziehlke, D.V., Goad, B.E. and Paul, B.J., 1981, The Cat Lake-Winnipeg River and the Wekusko Lake pegmatite fields, Manitoba; Manitoba Department of Energy and Mines, Mineral Resources Division, Economic Geology Report ER80-1, p. 75-78, 119, 152.

Cerny, P. and Bristol, N.A., 1972, New mineral occurrences in pegmatites of southeastern Manitoba; The Canadian Mineralogist, v. 11, Part 2, p. 560-563.

Cerny, P. and Turnock, A.C., 1971, Pegmatites of southeastern Manitoba; in Geoscience Studies in Manitoba, ed. A.C. Turnock; Geological Association of Canada, Special Paper No. 9, p. 119-122, 126.

Davies, J.F., 1957, Geology of the Winnipeg River area; Manitoba Mines Branch, Publication 56-1, p. 23-24.

Derry, D.R., 1930, Tin-bearing pegmatites in eastern Manitoba; Economic Geology, v. 25, p. 145-159.

REFERENCES cont'd

Ellsworth, H.V., 1932, Rare element minerals of Canada; Geological Survey of Canada, Economic Geology Series No. 11, p. 147.

Langridge Map Service, 1967; Map 8B.

Manitoba Mines Branch:
a Non-confidential Assessment Files; File Nos. 90008, 91299, 91686, 92194.

b Corporation Files; Manitoba Basin Mining Co. Limited; Petromines Limited; Manitoba Tin Company Limited; McKenzie Oil and Gas Company Limited; Scope Resources Limited.

c Mining Engineering Files; Manitoba Tin Company Limited.

d Unpublished Information Files; 52L/5,6.

e Annual Reports; 2nd - p. 42.

Mineral Policy Sector; Corporation Files: "Manitoba Tin Company Limited".

Springer, G.D., 1950, Mineral deposits of the Cat Lake-Winnipeg River area; Manitoba Mines Branch, Publication 49-7, 14p.

Wright, J.F., 1930, Gold, copper-nickel and tin deposits of southeast Manitoba; Geological Survey of Canada, Summary Report 1929, Part B, p. 136-171.

Wright, J.F., 1932, Geology and mineral deposits of a part of southeastern Manitoba; Geological Survey of Canada, Memoir No. 169, p. 99-106.

Wright, J.F. and Stockwell, C.H., 1932, Oiseau Sheet (Marginal Notes); Geological Survey of Canada.

MAP REFERENCES

*Map 52L/6, West, Ryerson Lake (Topo), Scale 1:50 000, Mines & Technical Surveys, Canada.

Map 1194 G, Ryerson Lake (Aeromag), Scale 1:63 360, Manitoba Mines Branch and Geological Survey of Canada.

Map 36252G, Pointe du Bois (airborne gamma-ray spectrometry), Scale 1:250 000, Geological Survey of Canada, Province of Manitoba, Province of Ontario (1976).

Map 274A, Oiseau Sheet (Geol), Scale 1:63 360 - Accompanying Marginal Notes by Wright and Stockwell (1932), Geological Survey of Canada.

Map 49-7, Cat Lake-Winnipeg River area (Geol), Scale 1:63 360 - Accompanying Report by Springer (1950), Manitoba Mines Branch.

MAP REFERENCES cont'd

Map 56-1a, Shatford Lake-Winnipeg River area (Geol), Scale 1:12 000 - Accompanying Report by Davies (1957), Manitoba Mines Branch.

Map 71-1/1, Wanipigow - Winnipeg Rivers region (Geol), Scale 1:253 440, compiled by W.D. McRitchie, Manitoba Mines Branch (Project Pioneer).

Preliminary Map 1972 F-1, Bird River area (Geol), Scale 1:50 000, by D.L. Trueman, Manitoba Mines Branch.

Preliminary Map 1978 F-2, Pointe du Bois (west part) (Geol), Scale 1:250 000, by D.A. Janes, Manitoba Mines Branch.

Map ER80-1-1, Cat Lake-Winnipeg River pegmatite field (Geol), Scale 1:100 000 - Accompanying Report by Cerny et al.(1981), Manitoba Mineral Resources Division.

Map ER80-1-3, Winnipeg River pegmatite district (structural geology), Scale 1:50 000 - Accompanying Report by Cerny et al.(1981), Manitoba Mineral Resources Division.

#Claim Map Series NW 6, 52L, Scale 1:31 680, circa 1928, Mining Recording, Manitoba Mines Branch.

REMARKS

1. Three small dykes, in basalt, just to the south of Tin Island contain some beryl (see 52L/6 BE 4).
2. Tin was also reported on the Nip and Cameron group, southwest of Shatford Lake, and on the north shore of Shatford Lake, in a garnet dyke containing copper, fluorine, and traces of nickel (Manitoba Mines Branch, Corporation File, Manitoba Basin Mining Co. Limited; Manitoba Tin Company Limited).
3. Bluish beryl crystals were seen in a rock pile near the shaft (Bannatyne, 1985).

Comp./Rev.		CGS	CFL	PA
By Date	02-68	11-73	01-79	05-88

MANITOBA ENERGY AND MINES **MINERAL INVENTORY FILE NO.** 120

PRODUCT Lithium **N.T.S. AREA** 52E/11 NW **REF.** LI 2

NAME OF PROPERTY:
Artdon No. 2

OWNER OR OPERATOR AND ADDRESS
1988 - Joseph Lechman
Box 3835, Station B
Winnipeg, Manitoba
R3W 5H9

OBJECT LOCATED: Centre of claim **MINING DIVISION** Winnipeg

Lat. 49° 38.85' Long. 95° 28.70' **UNCERTAINTY:** 500 m

L.S.15 Sec. 9 Tp. 8 R. 15 EPM

DESCRIPTION OF DEPOSIT

The deposit is situated in a pegmatite dyke which intrudes the Archean metavolcanic rocks of the Falcon Lake greenstone belt. "The dyke is 60 feet (18 m) long and 10 feet (3 m) wide. Coarse-grained pink and white feldspar, smoky quartz, biotite, white to pale green beryl, and white to pale green spodumene in crystals as much as 10 inches (25.4 cm) in length are present in the dyke" (Springer, 1952, p. 20). Blue tourmaline occurs with cleavelandite (Bannatyne, 1985).

Two major zones in the dyke have been described by Bannatyne (1985). The first zone consists of blocky feldspar (up to 24 cm across), quartz, and mica, with steel grey curvilamellar lithian muscovite in patches 6 to 10 mm across, abundant white and greenish-white beryl crystals, and irregular columnar masses of milky white beryl. The second zone contains wedge-shaped masses of quartz with 6 to 13 mm thick, laths of spodumene; spodumene occurs in clusters, with individual crystals 15 to 20 cm across.

HISTORY OF EXPLORATION AND DEVELOPMENT

The deposit is located approximately 134 km east of Winnipeg; about 0.8 km north of the Trans-Canada Highway and about 4.8 km northwest of the village of Glenn.

The first known staking of the deposit was as Atyfor No. 1 (W8677) by Louis De Kock in 1937. Some test pitting was done and in 1943 Arthur B. Scott staked the deposit as Artdon No. 2 (W11962), area 16.1 ha (39.8 ac). In the same year he optioned it to Sherritt Gordon Mines, Limited who completed a total of 1159 m (3802 ft) of diamond drilling in 18 holes. Results were spotty and the option was dropped.

Associated minerals or products of value
beryllium.

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

In 1950 a 21 year lease M-2980 was issued to Arthur B. Scott and later in the same year he optioned the property to The Lithium Corporation of America, Inc.. In 1950 G. D. Springer visited the property and his description is used under "Description of Deposit".

The property was assigned to The Lithium Corporation of America, Inc. in 1958 and in 1971 the lease was renewed for another 21 years. The lease was cancelled in 1976.

The area has been staked as follows:

Claim Name	Year	Acreage	Staker	Owner
CB 7101 (Falcon 2)	1979-81	259 ha	S. Lesavage	W. Bruce Dunlop Limited
CB 13115 (Con 2)	1981-83	256 ha	R. Dunlop D. MacEachern	W. Bruce Dunlop Limited
Joe 25 (W51926)	1987 to present	256 ha	A. Paupanekis C. Settee	Joseph Lechman

REFERENCES

Bannatyne, B.B., 1972, Pegmatite project; in Summary of Geological Fieldwork 1972; Manitoba Department of Mines, Resources and Environmental Management, Mines Branch, Geological Paper 3/72, p. 50-53.

Bannatyne, B.B., 1985, Industrial minerals in rare-element pegmatites of Manitoba; Manitoba Energy and Mines, Geological Services, Economic Geology Report ER84-1, p. 3, 7, 9, 11-12.

Manitoba Mines Branch:
a Annual Reports; 16th-p. 86.

b Non-confidential Assessment Files; File No. 91557.

Mulligan, R., 1965, Geology of Canadian lithium deposits; Geological Survey of Canada, Economic Geology Report No. 21, p. 66-67.

Mulligan, R., 1968, Geology of Canadian beryllium deposits; Geological Survey of Canada, Economic Geology Report No. 23, p. 76.

Phillips, K.A., 1978, Minerals of Manitoba, Volume 1: Non-metallic and pegmatitic; Department of Mines, Resources and Environmental Management, Manitoba Mineral Resources Division, MRD Educational Series 78/1, p. 72.

Rowe, R.B., 1956, Lithium deposits of Manitoba; Geological Survey of Canada, Paper 55-26, p. 11-12.

Springer, G.D., 1952, Geology of the Rennie-West Hawk Lake area; Manitoba Mines Branch, Publication 50-6, p. 20.

NAME OF PROPERTY **FILE NO.** 120
Artdon No. 2 **N.T.S. AREA** 52 E/11 NW **REF.** LI 2

MAP REFERENCES

*Map 52E/11, West, Waugh (Topo), Scale 1:50 000, Mines & Technical Surveys, Canada.

Map 1191 G, Waugh (Aeromag), Scale 1:63 360, Manitoba Mines Branch and Geological Survey of Canada.

Map 35552G, (airborne gamma-ray spectrometry), Scale 1:250 000, Geological Survey of Canada, Province of Manitoba, Province of Ontario (1976).

Map 37-4, Boundary area (Geol), Scale 1:126 720, by J.S. DeLury, Manitoba Mines Branch.

Map 50-6, Rennie-West Hawk Lake area (Geol), Scale 1:63 360 - Accompanying Report by Springer (1952), Manitoba Mines Branch.

Map 1207A, Lithium in Canada (Metallogenic), Scale 1:7 603 200 - Accompanying Report by Mulligan (1965), Geological Survey of Canada.

Preliminary Map 1975 F-8, Southeast Manitoba (Geol), Scale 1:126 720, by C.F. Lamb, Manitoba Mines Branch.

Preliminary Map 1976 F-1, Waugh (Geol), Scale 1:50 000, by D.A. Janes, Manitoba Mines Branch.

Preliminary Map 1978 F-1, Kenora (Geol), Scale 1:250 000, by D.A. Janes, Manitoba Mines Branch.

Claim Map Series NW 11, 52E, Scale 1:31 680, Mining Recording, Manitoba Mines Branch.

REMARKS:

1. For a plan of outcrops and drill-holes, see Bannatyne (1985, p. 11).
2. The pegmatite is located 885 m at 250° from the Lucy pegmatite (52E/11 LI 1).

Comp./Rev.		JB	PA
By Date	02-68	07-73	05-88

16710

PRODUCT Lithium **N.T.S. AREA** 52E/11 NE **REF.** LI 3

NAME OF PROPERTY:
Deer (Don)

OWNER OR OPERATOR AND ADDRESS
1988 - Open

OBJECT LOCATED: Centre of claim **MINING DIVISION** Winnipeg

Lat. 49° 44.75'	Long. 95° 12.12'	UNCERTAINTY: 500 m
Sec. 16	Tp. 9	R. 17 EPM

DESCRIPTION OF DEPOSIT

The deposit is situated within a dyke which intrudes Archean metavolcanics about 0.8 km (0.5 mi) northeast of the Archean or Proterozoic Falcon Lake Stock complex. "The 260-foot (79-m) dyke is from 2-10 feet (0.6-3 m) wide and strikes N30°W dipping 75° SW. The dyke is composed chiefly of an intimate mixture of quartz, albite, lepidolite, and spodumene. A few small turbid, pink tourmaline crystals are also present" (Stockwell, 1932, p. 126).

Laths of greenish spodumene (up to 25 cm long), fine-grained massive muscovite and some pale rose quartz have been noted (Bannatyne, 1985). A sample collected from a lepidolite-bearing outcrop of the dyke indicated contents of 0.07% Ta_2O_5 and 0.024% SnO_2 (D.L. Trueman, 1979 in Bannatyne, 1985). (See remarks).

HISTORY OF EXPLORATION AND DEVELOPMENT

The deposit is situated about 305 m (1000 ft) from the soutwest shore of West Hawk Lake and about 800 m (0.5 mi) north of the Trans-Canada Highway.

The first-known staking of the deposit as the Deer claim (26841) was by Alexander Dupuis in 1918. He staked the claim in search of gold, making a test pit and doing some stripping. In 1920 the property was restaked for gold as Deer (28970) by Henry R. Adams and in 1923 he assigned it to David Guthrie. During this time test pitting and stripping were carried out. In 1925 the property was restaked as Deer (38489) by Gustave Lindquist. Again test pitting, stripping and trenching were done and in 1926 or 1927 C. H. Stockwell inspected the property and his account is used under "Description of Deposit". In 1928 the property was assigned to James H. Curtin who carried out further work.

Associated minerals or products of value
tin, tantalum, rose quartz, gold.

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

In 1941 after the claim was cancelled it was decided by Geo. E. Cole, Director of Mines, Manitoba that the property be removed from staking because it was within a summer resort area. However, by 1949 this was changed because the deposit was staked as part of D.N.D. (W17620) by David W. Dayson and again in 1954 as part of Don (W20416) by Donald J. Birse. For the latter, permission had to be obtained before diamond drilling or other development work could be carried out.

In 1956 the property was assigned to Cobalt Consolidated Mining Corporation Limited who had 608 m (1995.2 ft) of diamond drilling done in 12 drill holes, over a strike length of 305 m. Ten of the holes cut veins containing various percentages of Li_2O. Two of the best assays were 1.40% Li_2O over 1.5 m (4.9 ft) in D.D.H. No. 3 and 1.22% Li_2O over 2.2 m (7.3 ft) in D.D.H. No. 2. In the central 183 m of the drilled zone, the deposit contains 21 200 tonnes grading 1.19% Li_2O to a depth of 30.5 m (Bannatyne, 1985).

Cobalt changed its name to Agnico Mines Limited in 1958 and allowed its claim to be cancelled in 1962.

REFERENCES

Bannatyne, B.B., 1972, Pegmatite project; in Summary of Geological Fieldwork 1972; Manitoba Department of Mines, Resources and Environmental Management, Mines Branch, Geological Paper 3/72, p. 50-53.

Bannatyne, B.B., 1985, Industrial minerals in rare-element pegmatites of Manitoba; Manitoba Energy and Mines, Geological Services, Economic Geology Report ER84-1, p. 14-15.

Davies, J.F., 1954, Geology of the West Hawk Lake - Falcon Lake area; Manitoba Mines Branch, Publication 53-4, 28p.

DeLury, J.S., 1927, The mineral resources of southeastern Manitoba, Rice Lake district, Oiseau River district and Boundary district; Industrial Development Board of Manitoba, p. 50.

Manitoba Mines Branch:
a Non-confidential Assessment Files; File No. 91072.

Springer, G.D., 1952, Geology of the Rennie-West Hawk Lake area; Manitoba Mines Branch, Publication 50-6, p. 20.

Stockwell, C.H., 1932, Lithium deposits; in Geology and Mineral Deposits of a Part of Southeastern Manitoba, by J.F. Wright; Geological Survey of Canada, Memoir No. 169, p. 126.

NAME OF PROPERTY		**FILE NO.** 121
Deer (Don)	**N.T.S. AREA** 52 E/11 NE	**REF.** LI 3

MAP REFERENCES

*Map 52E/11, East, Waugh (Topo), Scale 1:50 000, Mines & Technical Surveys, Canada.

Map 1191 G, Waugh (Aeromag), Scale 1:63 360, Manitoba Mines Branch and Geological Survey of Canada.

Map 35552G, (airborne gamma-ray spectrometry), Scale 1:250 000, Geological Survey of Canada, Province of Manitoba, Province of Ontario (1976).

Map 37-4, Boundary area (Geol), Scale 1:126 720, by J.S. DeLury, Manitoba Mines Branch.

Map 50-6, Rennie-West Hawk Lake area (Geol), Scale 1:63 360 - Accompanying Report by Springer (1952), Manitoba Mines Branch.

Map 53-4, West Hawk Lake - Falcon Lake area (Geol), Scale 1:12 000 - Accompanying Report by Davies (1954), Manitoba Mines Branch.

Preliminary Map 1975 F-8, Southeast Manitoba (Geol), Scale 1:126 720, by C.F. Lamb, Manitoba Mines Branch.

Preliminary Map 1976 F-1, Waugh (Geol), Scale 1:50 000, by D.A. Janes, Manitoba Mines Branch.

Preliminary Map 1978 F-1, Kenora (Geol), Scale 1:250 000, by D.A. Janes, Manitoba Mines Branch.

Claim Map Series NE 11, 52E, Scale 1:31 680, Mining Recording, Manitoba Mines Branch.

REMARKS:

1. The lepidolite outcrop is in the vicinity of DDH No. 1.
2. Two 0.2-0.30 m (0.5-1 ft) wide dykes composed of albite and quartz with a small amount of lepidolite and pink tourmaline are located 1341 m (4400 ft) N25°E and 366 m (1200 ft) S30°E of the dyke on the Deer claim.

Comp./Rev.		JB	PA
By Date	02-68	07-73	06-88

MANITOBA ENERGY AND MINES **MINERAL INVENTORY FILE NO. 131**

PRODUCT Tungsten **N.T.S. AREA** 52E/11 NW **REF.** W 1

NAME OF PROPERTY:
M.J.T. No. 3

OWNER OR OPERATOR AND ADDRESS
1988 -
Sue (W 48094):
A. Mickelson
1029 Waller Avenue
Winnipeg, Manitoba
R3T 1P3

Doris (W 45828):
Walter Thompson
38 King st.
Sioux Lookout, Ontario
P0V 2T0

Val 4 (W 51424):
Star Resources Limited
General Delivery
Falcon Lake, Manitoba
R0E 0N0

OBJECT LOCATED: Center of claim **Mining Division** Winnipeg

Lat. 49° 44.4' Long. 95° 17.05' UNCERTAINTY: 500 m

L.S. 2,3 Sec. 13 Tp. 9 R. 16 EPM

DESCRIPTION OF DEPOSIT

The deposits are situated in shear and fracture zones within Archean metavolcanic rocks, near the contact with an Archean or Proterozoic pink porphyritic granodiorite. Eight occurrences of scheelite lie on or close to a strike of 042° for 549 m (1800 ft). In a "North Lens", disseminated scheelite occurs in an irregularly foliated mixture of sugary quartz and pale silicified greenstone. In a "South Lens" the scheelite is localized in pods, bands, and small pockets within a coarse-grained amphibolite with biotite, epidote, and garnet.

HISTORY OF EXPLORATION AND DEVELOPMENT

The deposits are located 2.4 km north of Barren Lake and 1.6 km southwest of Star Lake.

The first workings on this property were for gold in 1918. The extent of these operations is unknown except that test pits were made and stripping done. For some period prior to 1937, the deposit was not staked and then in 1937 M.J. Thorarinson (W 8275) staked the property for gold. It was not until 1939 that Charlie Letaine, a watchman at the Sunbeam Kirkland mine, found scheelite. Thor Gold Mines, Limited acquired the property and carried out trenching and sampling in 1942.

Associated minerals or products of value
gold.

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

The "South Lens", located 137 m (450 ft) northeast of Claim Post No. 3, is 6 m (18 ft) long and from 0.2 m to 1.0 m (0.8 to 3.3 ft) wide. Three channel samples average 0.14% WO_3 across 0.7 m (2.4 ft), and the lens contains an estimated 54 tonnes (60 tons) of material of this grade which could be hand-cobbed to yield 5 tonnes (6 tons) of 1% WO_3.

The "North Lens", located 335 m (1100 ft) north of the "South Lens", is 9.8 m (32 ft) long and from 0.4 m to 1 m (1.2 to 4.2 ft) wide. Three channel samples average 0.33% WO_3 across 0.5 m (1.6 ft), and the lens was estimated to contain 150 tonnes (165 tons) of this grade and 14 tonnes (15 tons) of 1% WO_3 after hand-cobbing. An average 0.89 g/t (0.026 oz/ton) Au is also present, in both "lenses".

In 1943, Sylvanite Gold Mines Limited lamped the scheelite showings and reported up to 8% over 1.5 m (5 ft) and 0.1% over 4 m (12 ft) in the north area and an average of 1.25% WO_3 over 0.5 m (1.75 ft) in a pod in the southern area (Non-confidential Assessment File No. 91077).

Thor Gold Mines dropped the property in 1949 and it has been restaked.

Claim Name	Number	Year	Staker
South part of Sunshine No. 1	W 18635	1951	John Donner
and north part of Papke No. 4	W 18700	1951	Robert Helgason
Part of Tungsten No. 1 - cancelled 1953.	W 19608	1953	H. Marcus

In 1976, CB 6817 and CB 6818, totalling 388 ha, were staked over the area by Chester J. Kuryliw on behalf of Hugh R. Currie, but were cancelled two years later. In 1979, CB 9854 (Arn) comprising 243 ha was staked over the property by Arnold Mickelson on behalf of Triple J Exploration. In 1980, the claim was transferred to Arnold Mickelson who carried out the following restakings:

Claim Name	Year	Acreage
CB 12182 (Bam)	1982	243 ha
Sue (W 48094)	1984	136 ha

Portions of the old M.J.T. No. 3 claim were also restaked under the northeast parts of Valley Gold (W 46306), area 17 ha, by Leonard Thompson for Norman Lee in 1979 and under the southeast part of CB 11774 (Whity 3), area 112 ha, by L.C. Chastko for Star Resources Limited in 1984. Valley Gold was cancelled in 1985 and then restaked by Walter Thompson as Doris (W 45828), area 16 ha; CB 11774 (Whity 3) was restaked as Val 4 (W 51424) in 1986.

NAME OF PROPERTY **FILE NO.** 131
M.J.T. No. 3 **N.T.S. AREA** 52E/11 NW **REF.** W 1

REFERENCES

Bateman, J.D., 1943, Scheelite near Falcon Lake, Manitoba; The Precambrian, v. 16, No. 8, p. 4-7, 13.

Davies, J.F., 1954, Geology of the West Hawk Lake - Falcon Lake area; Manitoba Department of Mines and Natural Resources, Mines Branch, Publication 53-4, p. 21-22.

Dawson, A.S., 1942, Scheelite occurrences in Boundary area, Manitoba; Manitoba Mines Branch, Unpublished Information File 52E/11, 11p.

De Lury, J.S., 1918, Tungsten ore deposits near Falcon Lake, Manitoba; Canadian Mining Journal, v. 39, p. 186-188.

Lamb, C.F., 1975, Southeastern Manitoba (part of 52E and 52L); in Summary of Geological Fieldwork 1975; Manitoba Department of Mines, Resources and Environmental Management, Mineral Resources Division, Exploration and Geological Survey Branch, Geological Paper 2/75, p. 38.

Little, H.W., 1959, Tungsten deposits of Canada; Geological Survey of Canada, Economic Geology Report No. 17, p. 155-157.

Manitoba Mines Branch:
a Non-confidential Assessment Files; File No. 91077.
b Unpublished Information Files; 52E/11.
c Mining Recording Files; File No. 23574.
d Mining Engineering Files; Thor Gold Mines Limited.

Springer, G.D., 1952, Geology of the Rennie - West Hawk Lake area; Manitoba Department of Mines and Natural Resources, Mines Branch, Publication 50-6, p. 17-18.

MAP REFERENCES

*Map 52E/11, West, Waugh, (Topographic), Scale 1:50 000.

Map 1191G, Waugh, (Aeromagnetic), Scale 1:63 360.

Map 35552G, (Airborne Gamma Ray Spectrometry), Scale 1:250 000, Province of Manitoba, Province of Ontario, Geological Survey of Canada (1976).

Map 50-6, Rennie-West Hawk Lake area, (Geology), Scale 1:63 360 - Accompanying Report by Springer (1952), Manitoba Mines Branch.

Map 53-4, West Hawk Lake-Falcon Lake area, (Geology), Scale 1:12 000 - Accompanying Report by Davies (1954), Manitoba Mines Branch.

Preliminary Map 1975 F-8, Southeast Manitoba, (Geology), Scale 1:126 720, by C.F. Lamb, Manitoba Mineral Resources Division.

MAP REFERENCES cont'd

Preliminary Map 1976 F-1, Waugh, (Geology), Scale 1:50 000, by D.A. Janes, Manitoba Mineral Resources Division.

Preliminary Map 1978 F-1, Kenora, (Geology), Scale 1:250 000, by D.A. Janes, Manitoba Mineral Resources Division.

Comp./Rev.		JB	PA
By Date	02-66	07-73	07-88

MANITOBA ENERGY AND MINES **MINERAL INVENTORY FILE NO.** 132

PRODUCT Tungsten **N.T.S. AREA** 52E/11 NW **REF.** W 2

NAME OF PROPERTY:
P.M.W. No. 8
(Felrite No. 1)

OWNER OR OPERATOR AND ADDRESS
1988 - Star Resources Limited
General Delivery
Falcon Lake, Manitoba
ROE ONO

OBJECT LOCATED Center of claim **Mining Division** Winnipeg

Lat. 49° 43.25' Long. 95° 18.4' UNCERTAINTY: 500 m

L.S. 11,14 Sec. 2 Tp. 9 R. 16 EPM

DESCRIPTION OF DEPOSIT

The deposits are situated in shear and fracture zones within Archean metavolcanic rocks, near the contact with an Archean or Proterozoic pink porphyritic granodiorite. The north shear zone contains 5 silicified scheelite-bearing greenstone pods, arranged en echelon and distributed over 50 m (165 ft). The south zone, 3 pods, is 27 m (90 ft) long, strikes 035° and dips 85° SE, and is located 79 m (260 ft) southwest of the north zone. Both zones contain epidote, garnet, and pyrrhotite.

HISTORY OF EXPLORATION AND DEVELOPMENT

The deposits are located 0.8 km northwest of Barren Lake about 2.4 km north of the Trans-Canada Highway.

This property was apparently first staked as Contact No. 3 (W 7778) in 1937 by J.P. Potvin probably for gold. In 1939 Charlie Letaine discovered scheelite and staked it as Felrite No. 1 (W 10153). In 1942, the property was assigned to J.A. Poirier who stripped and test-pitted the scheelite-bearing zone.

Within the north shear zone the 5 occurrences have been evaluated by lamp grading and one assay.

Character	Area m^2 (sq. ft)	% WO_3	Tonnes (tons) (estimated)
pod	0.28 (3)	0.15	2.7 (3)
pod	0.37 (4)	0.14	1.8 (2)
lens	1.11 (12)	0.54	16.3 (18)
pocket	0.37 (4)	3.93 (assay)	0.9 (1)
lens	1.11 (12)	0.45	5.4 (6)

The indicated reserves are 27 tonnes (30 tons) of ore averaging 0.56% WO_3. This could be hand-cobbed to about 7 tonnes (8 tons) carrying 1% WO_3.

Associated minerals or products of value
gold, copper.

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

Representative samples across each of the 3 mineralized pods in the south zone are reported to have returned respectively 0.33, 0.02, and 0.16% WO_3 from northeast to southwest. As the scheelite is not concentrated one per cent material is unlikely.

In 1943, Sylvanite Gold Mines Limited lamped the scheelite showings, and reported up to 5.5% WO_3 over 1.0 m (3.4 ft) in the northern area and 0.315% WO_3 over 1.5 m (5 ft) in a pod in the southern area. The Company reported that "sampling by Jones shows av. 0.89% WO_3" (Non-confidential Assessment File No. 91077).

This property has been restaked many times.

Claim Name	Number	Year	Staker
Contact No. 3	W 7778	1937	J.R. Potvin
Felrite No. 1	W 10153	1939	C. Letaine
- Assigned to J.A. Poirier in 1942.			
P.M.W. No. 8	W 18293	1950	A.A. Paoli
Post No. 3	W 18542	1951	John Donner
E1/2 C.M.J.Z. No. 1	W 21186	1955	J. Ziyone
W1/2 C.M.J.Z. No. 3	W 21188	1955	J. Ziyone
E1/2 Hagen No. 3	W 27782	1957	H. Hagenson
W1/2 Hagen No. 2	W 27781	1957	H. Hagenson
- Assigned 75% interest to M.S. Kisil in 1957.			
part of Mac No. 9	W 30549	1958	D.A. McLeod
- Assigned 80% interest to Donald MacLeod in 1959.			
part of Bow No. 19	W 41882	1968	M. Tew
- Assigned to A.S. Dawson in 1968. - Cancelled in 1972.			

The following restakings were recorded for Star Resources Limited:

Year	Claim Name	Acreage	Staker
1981	CB 12918 (White 6)	162 ha	C. Wesley (assisted by G. Wesley)
1984	CB 12934 (Whity 6)	195 ha	L. C. Chastko (assisted by T. Keewaycabo and J. Keewaycabo)
1986	Val 1 (W 51421)	156 ha	L. C. Chastko (assisted by J. Chastko)

Star Resources Limited carried out a limited program of prospecting and sampling in 1983.

REFERENCES

Bateman, J.D., 1943, Scheelite near Falcon Lake, Manitoba; The Precambrian, v. 16, No. 8, p. 4-7, 13.

Davies, J.F., 1954, Geology of the West Hawk Lake - Falcon Lake area; Manitoba Department of Mines and Natural Resources, Mines Branch, Publication 53-4, p. 21-22.

REFERENCES cont'd

Dawson, A.S., 1942, Scheelite occurrences in Boundary area, Manitoba; Manitoba Mines Branch, Unpublished Information File 52E/11, 11p.

De Lury, J.S., 1918, Tungsten ore deposits near Falcon Lake, Manitoba; Canadian Mining Journal, v. 39, p. 186-188.

Lamb, C.F., 1975, Southeastern Manitoba (part of 52E and 52L); in Summary of Geological Fieldwork 1975; Manitoba Department of Mines, Resources and Environmental Management, Mineral Resources Division, Exploration and Geological Survey Branch, Geological Paper 2/75, p. 38.

Little, H.W., 1959, Tungsten deposits of Canada; Geological Survey of Canada, Economic Geology Report No. 17, p. 155-157.

Manitoba Mines Branch:
 a Non-confidential Assessment Files; File No. +91077, 91080, 92605.
 b Unpublished Information Files; 52E/11.
 c Mining Recording Files; File No. 26715 (Felrite No. 1).

Springer, G.D., 1952, Geology of the Rennie - West Hawk Lake area; Manitoba Department of Mines and Natural Resources, Mines Branch, Publication 50-6, p. 17-18.

MAP REFERENCES

*Map 52E/11, West, Waugh, (Topographic), Scale 1:50 000.

Map [illegible]191G, Waugh, (Aeromagnetic), Scale 1:63 360.

Map 35552G, (Airborne Gamma Ray Spectrometry), Scale 1:250 000, Province of Manitoba, Province of Ontario, Geological Survey of Canada (1976).

Map 50-6, Rennie-West Hawk Lake area, (Geology), Scale 1:63 360 - Accompanying Report by Springer (1952), Manitoba Mines Branch.

Map 53-4, West Hawk Lake-Falcon Lake area, (Geology), Scale 1:12 000 - Accompanying Report by Davies (1954), Manitoba Mines Branch.

Preliminary Map 1975 F-8, Southeast Manitoba, (Geology), Scale 1:126 720, by C.F. Lamb, Manitoba Mineral Resources Division.

Preliminary Map 1976 F-1, Waugh, (Geology), Scale 1:50 000, by D.A. Janes, Manitoba Mineral Resources Division.

Preliminary Map 1978 F-1, Kenora, (Geology), Scale 1:250 000, by D.A. Janes, Manitoba Mineral Resources Division.

Comp./Rev.		JB	PA
By Date	02-66	07-73	07-88

PRODUCT Tungsten **N.T.S. AREA** 52E/11 NW **REF.** W 3

NAME OF PROPERTY
P.M.W. No. 2
(M.J.T. No. 14)

OWNER OR OPERATOR AND ADDRESS
1988 - Star Resources Ltd.
General Delivery
Falcon lake, Manitoba
ROE ONO

OBJECT LOCATED Center of claim **Mining Division** Winnipeg

Lat. 49° 43.75' Long. 95° 19.05' UNCERTAINTY: 500 m

L.S. 2,7 Sec. 11 Tp. 9 R. 16 EPM

DESCRIPTION OF DEPOSIT

The deposits are situated in shear and fracture zones within Archean metavolcanic rocks, near the contact with an Archean or Proterozoic pink porphyritic granodiorite. Scheelite occurs in 3 lenses, the largest 25.4 cm by 2.54 cm (10 inches by 1 inch), along a length of 16 m (52 ft). The lenses consist of crystalline epidote and calcite with a little garnet. The lenses as a unit strike 034°, plunge 66° in the same direction and dip 80° southeast.

HISTORY OF EXPLORATION AND DEVELOPMENT

The deposits are located 0.8 km north of Barren Lake and 0.8 km southwest of M.J.T. No. 3, W1, on the northeast side of an outcrop island in a large muskeg.

The first known staking of this property was in 1937 as Eagle No. 5 (W 7808) by S. Sparks, although earlier stakings for gold probably had occurred. Since then this property has been restaked many times.

Claim Name	Number	Year	Staker
Eagle No. 5	W 7808	1937	S. Sparks
- Assigned to J. Gray Mundie in 1937.			
M.J.T. No.14	W 8900	1938	M.J. Thorarinson
P.M.W. No. 2	W 18287	1950	A.A. Paoli
W1/2 of C.M.J.Z. No. 10	W 21195	1955	J. Ziyone
E1/2 of C.M.J.Z. No. 11	W 21196	1955	J. Ziyone
W1/2 Hagen No. 7	W 27786	1957	H.Hagenson
E1/2 Hagen No. 8	W 27787	1957	H.Hagenson
- Assigned 75% interest to M.S. Kisil in 1957.			
- Cancelled in 1958.			

Bateman (1943) estimated that along its 16 m (52 ft) length, there are 141.9 cm^2 (22 sq in) of disseminated scheelite-bearing material estimated to grade less than 0.1% WO_3. An adjacent property, the former M.J.T. No. 13, has a few grains of scheelite near its southwest corner. Sylvanite Gold Mines Ltd. examined scheelite showings in the area in 1943.

Associated minerals or products of value

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

The following restakings of the property were carried out for Star Resources Ltd.:

Claim Name	Year	Acreage	Staker(s)
CB 12916 (White 4)	1981	162 ha	Charles Wesley, Gerald Wesley
CB 11775 (Whity 4)	1984	192 ha	L. C. Chastko
Val 3 (W 51423)	1986	168 ha	L. C. Chastko

Star Resources Ltd. carried out some prospecting and sampling in 1983.

HISTORY OF PRODUCTION

Some scheelite ore was removed from this locality in 1918.

REFERENCES

Bateman, J.D., 1943, Scheelite near Falcon Lake, Manitoba; The Precambrian, v. 16, No. 8, p. 4-7, 13.

Davies, J.F., 1954, Geology of the West Hawk Lake - Falcon Lake area; Manitoba Department of Mines and Natural Resources, Mines Branch, Publication 53-4, p. 21-22.

Dawson, A.S., 1942, Scheelite occurrences in Boundary area, Manitoba; Manitoba Mines Branch, Unpublished Information File 52E/11, 11p.

De Lury, J.S., 1918, Tungsten ore deposits near Falcon Lake, Manitoba; Canadian Mining Journal, v. 39, p. 186-188.

Lamb, C.F., 1975, Southeastern Manitoba (part of 52E and 52L); *in* Summary of Geological Fieldwork 1975; Manitoba Department of Mines, Resources and Environmental Management, Mineral Resources Division, Exploration and Geological Survey Branch, Geological Paper 2/75, p. 38.

Little, H.W., 1959, Tungsten deposits of Canada; Geological Survey of Canada, Economic Geology Report No. 17, p. 155-157.

Manitoba Mines Branch:
a Non-confidential Assessment Files; File No. 91077, 92605.
b Unpublished Information Files; 52E/11.
c Mining Recording Files; File No. 22567 (M.J.T. No. 14).

Springer, G.D., 1952, Geology of the Rennie - West Hawk Lake area; Manitoba Department of Mines and Natural Resources, Mines Branch, Publication 50-6, p. 17-18.

MAP REFERENCES

*Map 52E/11, West, Waugh, (Topographic), Scale 1:50 000.

Map 1191G, Waugh, (Aeromagnetic), Scale 1:63 360.

Map 35552G, (Airborne Gamma Ray Spectrometry), Scale 1:250 000, Province of Manitoba, Province of Ontario, Geological Survey of Canada (1976).

Map 50-6, Rennie-West Hawk Lake area, (Geology), Scale 1:63 360 - Accompanying Report by Springer (1952), Manitoba Mines Branch.

Map 53-4, West Hawk Lake-Falcon Lake area, (Geology), Scale 1:12 000 - Accompanying Report by Davies (1954), Manitoba Mines Branch.

Preliminary Map 1975 F-8, Southeast Manitoba, (Geology), Scale 1:126 720, by C.F. Lamb, Manitoba Mineral Resources Division.

Preliminary Map 1976 F-1, Waugh, (Geology), Scale 1:50 000, by D.A. Janes, Manitoba Mineral Resources Division.

Preliminary Map 1978 F-1, Kenora, (Geology), Scale 1:250 000, by D.A. Janes, Manitoba Mineral Resources Division.

Comp./Rev.	JB	PA
By Date	07-73	07-88

MANITOBA ENERGY AND MINES   MINERAL INVENTORY FILE NO. 134

PRODUCT Tungsten   N.T.S. AREA 52E/11 NW   REF. W 4

NAME OF PROPERTY:
Lake No. 10
(Empress)

OWNER OR OPERATOR AND ADDRESS
1988 -
Val 1 (W 51421): Star Resources Ltd.
General Delivery
Falcon Lake, Manitoba
ROE ONO

Debra 1 (W 51871): Goldbeam Resources Ltd.
General Delivery
Falcon Lake, Manitoba
ROE ONO

OBJECT LOCATED Center of claim   Mining Division Winnipeg

Lat. 49° 42.8'   Long. 95° 18.75'   UNCERTAINTY: 500 m

L.S. 4 Sec. 2   Tp. 9   R. 16 EPM

DESCRIPTION OF DEPOSIT

The deposits are situated in shear and fracture zones within Archean metavolcanic rocks, near the contact with an Archean or Proterozoic pink porphyritic granodiorite. The shear zone in greenstone strikes NE, dips 85° SE, and plunges NE at 35°. The greenstone contains secondary hornblende, biotite, and epidote, and is intersected by a few quartz and calcite stringers with which the scheelite is associated.

HISTORY OF EXPLORATION AND DEVELOPMENT

The deposit is located 0.8 km west of Barren Lake and 1.6 km north of the Trans-Canada Highway.

Scheelite was discovered in 1918 on the Empress claim. Shortly after, a cut 15 m (50 ft) long, 2 to 5 m (8 to 15 ft) wide was made close to the west boundary of the claim. The cut consists of two benches, one at 0-0.3 m (0-1 ft) and the other at 1.2-1.8 m (4-6 ft) above a swamp. A 5-m (15-ft) pit was sunk into the lower one to the northeast.

According to Bateman (1943), after operations had ceased some 387 cm^2 (60 square inches) of disseminated scheelite-bearing material with an estimated grade of less than 0.1% are still in place and the dump contains several tonnes of low grade ore from which 1.8 tonnes (2 tons) of 1% WO$_3$ could be obtained. He estimated that a total of 345 tonnes (380 tons) of material had been removed from this property.

Associated minerals or products of value
copper.

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

Since the Empress was dropped this property was restaked many times. The known times are:

Claim Name	Number	Year	Staker
Macabee	W 3911	1934	M.A. Shanks
- Assigned to J.O. Shanks in 1934.			
Homestead No. 6	W 7787	1937	J.R. Van Nick
- Assigned to J. Gray Mundie in 1937.			
Lake No. 10	W 9329	1939	Thos. A. Rache
- Assigned to Duncan McMillan in 1942.			
- Assigned to Westfal Mines Ltd. (NPL) in 1943.			
Tungsten No. 5	W 15862	1947	Duncan McMillan
P.M.W. No. 14	W 18299	1950	Emily Worobes
Paoli No. 2	W 18771	1951	Robert Helgason
Part of Tat #6	W 38180	1965	J.D. Poliquin
Part of Mac #5	W 38861	1965	J.N. Tod
- Assigned to Don MacLeod in 1965.			
- Cancelled in 1966.			

The area was restaked under parts of CB 12918 (White 6) and Bil (W 46392). CB 12918 (White 6), area 162 ha, was staked by Charles Wesley (assisted by Gerry Wesley) on behalf of Star Resources Ltd. of Edmonton in 1981. The following restakings were carried out for the company:

Year	Claim Name	Acreage	Staker
1984	CB 12934 (Whity 6)	195 ha	Louis C. Chastko (assisted by Titus Keewaycabo and Jake Keewaycabo)
1986 to present	Val 1 (W 51421)	156 ha	Louis C. Chastko (assisted by Jason Chastko)

The staking history of Bil (W 46392) area 16 ha, is summarized as follows:

Year	Claim Name	Staker
1981	Bil (W 46392)	W. Scherpenisse
1983	Kimon (W 48342)	Michael J. Issigonis (assisted by Leo Poulin)
- cancelled 1985		
1986	Little (W 50272)	L.C. Chastko (assisted by T. Keewaycabo and J. Ombush) for Star Resources Ltd.
- cancelled 1988		
1988 to present	part of Debra 1 (W 51871)	Hugh Currie for Goldbeam Resources Ltd.

Star Resources Ltd. carried out a limited program of prospecting and sampling in 1983 (Non-confidential Assessment File No. 92605).

NAME OF PROPERTY
Lake No. 10 (Empress)

N.T.S. AREA 52E/11 NW

FILE NO. 134
REF. W 4

HISTORY OF PRODUCTION

In 1918 almost 3.6 tonnes (4 tons) of material was shipped to W.B. Timm of the Ore Dressing Laboratory, Mines Branch, Department of Mines, Ottawa. He reported the following results:

	Crude Ore	Concentrates	Tailings
weight in kg (lbs)	3.59 (7.921)	80.29 (177)	3513 (7744)
Analysis WO_3	1.65%	70.63%	0.073%

Conclusions: By the above test a high-grade tungsten concentrate of grade 70.63% was made with a recovery of 95.7% of the tungsten values in the ore. These results were very satisfactory for a low grade ore considering the comparatively coarse crushing necessary to obtain the separation. However, as this shipment apparently consisted of cobbed material the return from the mill test was not encouraging.

REFERENCES

Bateman, J.D., 1943, Scheelite near Falcon Lake, Manitoba; The Precambrian, v. 16, No. 8, p. 4-7, 13.

Bruce, E.L., 1919, Gold-quartz veins and scheelite deposits in southeastern Manitoba; Geological Survey of Canada, Summary Report 1918, Part D, p. 14-15.

Davies, J.F., 1954, Geology of the West Hawk Lake - Falcon Lake area; Manitoba Department of Mines and Natural Resources, Mines Branch, Publication 53-4, p. 21-22.

Dawson, A.S., 1942, Scheelite occurrences in Boundary area, Manitoba; Manitoba Mines Branch, Unpublished Information File 52E/11, 11p.

De Lury, J.S., 1918, Tungsten ore deposits near Falcon Lake, Manitoba; Canadian Mining Journal, v. 39, p. 186-188.

De Lury, J.S., 1927, The mineral resources of southeastern Manitoba, Rice Lake district, Oiseau River district and Boundary district; Industrial Development Board of Manitoba, p. 51-52.

Lamb, C.F., 1975, Southeastern Manitoba (part of 52E and 52L); *in* Summary of Geological Fieldwork 1975; Manitoba Department of Mines, Resources and Environmental Management, Mineral Resources Division, Exploration and Geological Survey Branch, Geological Paper 2/75, p. 38.

Little, H.W., 1959, Tungsten deposits of Canada; Geological Survey of Canada, Economic Geology Report No. 17, p. 155-157.

REFERENCES cont'd

Manitoba Mines Branch:
a Non-confidential Assessment Files; File No. 91078, 92605.
b Unpublished Information Files; 52E/11.
c Mining Recording Files; File No. 22884 (Lake No. 10).

Springer, G.D., 1952, Geology of the Rennie - West Hawk Lake area; Manitoba Department of Mines and Natural Resources, Mines Branch, Publication 50-6, p. 17-18.

Stockwell, C.H., 1948, Structural control of mineral deposits in southeastern Manitoba; in Structural Geology of Canadian Ore Deposits; Canadian Institute of Mining and Metallurgy, p. 284-291.

MAP REFERENCES

*Map 52E/11, West, Waugh, (Topographic), Scale 1:50 000.

Map 1191G, Waugh, (Aeromagnetic), Scale 1:63 360.

Map 35552G, (Airborne Gamma Ray Spectrometry), Scale 1:250 000, Province of Manitoba, Province of Ontario, Geological Survey of Canada (1976).

Map 37-4, Boundary area, (Geology), Scale 1:126 720, by J.S. De Lury, Manitoba Mines Branch.

Map 50-6, Rennie-West Hawk Lake area, (Geology), Scale 1:63 360 - Accompanying Report by Springer (1952), Manitoba Mines Branch.

Map 53-4, West Hawk Lake-Falcon Lake area, (Geology), Scale 1:12 000 - Accompanying Report by Davies (1954), Manitoba Mines Branch.

Preliminary Map 1975 F-8, Southeast Manitoba, (Geology), Scale 1:126 720, by C.F. Lamb, Manitoba Mineral Resources Division.

Preliminary Map 1976 F-1, Waugh, (Geology), Scale 1:50 000, by D.A. Janes, Manitoba Mineral Resources Division.

Preliminary Map 1978 F-1, Kenora, (Geology), Scale 1:250 000, by D.A. Janes, Manitoba Mineral Resources Division.

Comp./Rev.		JB	PA
By Date	02-68	07-73	07-88

MANITOBA ENERGY AND MINES **MINERAL INVENTORY FILE NO. 151**

PRODUCT Tungsten **N.T.S. AREA** 52E/14 SE **REF.** W 1

NAME OF PROPERTY:
Black No. 5

OWNER OR OPERATOR AND ADDRESS
1988 - Open

OBJECT LOCATED Center of claim

Mining Division Winnipeg

Lat. 49° 46.52' Long. 95° 12.08' UNCERTAINTY: 100 m

L.S. 8,9 Sec. 28 Tp. 9 R. 17 EPM

DESCRIPTION OF DEPOSIT

The deposit is situated in three pods with a total length of 1.8 m (6 ft) and an average width of 0.5 m (1.5 ft) which lie within Archean metavolcanic rocks, near the contact with metasediments. A large body of pink porphyritic granodiorite, of Archean or Proterozoic age, is situated 3.2 km (2 mi) north.

HISTORY OF EXPLORATION AND DEVELOPMENT

The deposit is located on the north shore of Howe Bay, West Hawk Lake, approximately 4 km north of the Trans-Canada Highway and 0.8 km east of Highway 44.

This property was first staked as Black No. 5 (W 9226) by W. Mc. M. Black in 1939. Some scheelite-bearing material was removed in 1942 from an estimated 4.5 tonne (5 ton) lens containing the 3 pods. In 1946, the property was assigned to Howe Bay Gold Mining Co. Ltd. (NPL) and in 1947, because of a lack of assessment work, was cancelled. This property was later restaked 3 times by Norman S. Black and cancelled each time because of "no work".

Claim Name	Number	Year	Staker
Black No. 1	W 15667	1947	N.S. Black
Elizabeth No. 1	W 16619	1948	N.S. Black
- Assigned to Howe Bay Gold Mining Co. Ltd. (NPL) in 1948.			
Elizabeth No. 1	W 17865	1950	N.S. Black
- Assigned to Howe Bay Gold Mining Co. Ltd. (NPL) in 1950. - Cancelled in 1951.			

An adjacent claim, to the west, Black No. 4 (W 9225) was staked about the same time in 1939. On this claim, over a length of 21 m (70 ft) there are four pods of scheelite-bearing material aggregating 11 tonnes (12 tons) and grading less than 1% WO_3 even after hand cobbing. Adjacent to Black No. 4 on the west is Black No. 1 (W 9746) where scheelite occurs in a mixture of granite, epidote, actinolite, and calcite within two or three mineralized patches.

Associated minerals or products of value

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

In 1983, Hawk 6 (W 46226), area 180 ha, was staked over the property by Louis C. Chastko (assisted by W. Wesley and M. Keewaycabo) on behalf of Canadian Nickel Company Limited. The claim was cancelled in 1985.

HISTORY OF PRODUCTION

Two shipments were made to the Bureau of Mines, Ottawa in 1942.

Weight in kg (lb)	% WO_3	Weight of WO_3 in kg (lb)
602.4 (1328)	0.46	2.77 (6.11)
846.4 (1866)	0.51	4.31 (9.5)

REFERENCES

Bateman, J.D., 1943, Scheelite near Falcon Lake, Manitoba; The Precambrian, v. 16, No. 8, p. 4-7, 13.

Davies, J.F., 1954, Geology of the West Hawk Lake - Falcon Lake area; Manitoba Department of Mines and Natural Resources, Mines Branch, Publication 53-4, p. 21-22.

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Little, H.W., 1959, Tungsten deposits of Canada; Geological Survey of Canada, Economic Geology Report No. 17, p. 155-157.

Manitoba Mines Branch:
a Mining Recording Files; File No. 25011 (Black No. 5).

Springer, G.D., 1952, Geology of the Rennie - West Hawk Lake area; Manitoba Department of Mines and Natural Resources, Mines Branch, Publication 50-6, p. 17-18.

MAP REFERENCES

*Map 52E/11, West, Waugh, (Topographic), Scale 1:50 000.

Map 1192G, Caddy Lake, (Aeromagnetic), Scale 1:63 360.

Map 35552G, (Airborne Gamma Ray Spectrometry), Scale 1:250 000, Province of Manitoba, Province of Ontario, Geological Survey of Canada (1976).

Map 50-6, Rennie-West Hawk Lake area, (Geology), Scale 1:63 360 - Accompanying Report by Springer (1952), Manitoba Mines Branch.

Map 53-4, West Hawk Lake-Falcon Lake area, (Geology), Scale 1:12 000 - Accompanying Report by Davies (1954), Manitoba Mines Branch.

MAP REFERENCES cont'd

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Preliminary Map 1976 F-3, Caddy Lake, (Geology), Scale 1:50 000, by D.A. Janes, Manitoba Mineral Resources Division.

Preliminary Map 1978 F-1, Kenora, (Geology), Scale 1:250 000, by D.A. Janes, Manitoba Mineral Resources Division.

Comp./Rev.		JB	PA
By Date	02-68	07-73	07-88

MANITOBA ENERGY AND MINES **MINERAL INVENTORY FILE NO. 152**

PRODUCT Tungsten **N.T.S. AREA** 52E/14 SE **REF.** W 2

NAME OF PROPERTY:
Letain - Wolf No. 1

OWNER OR OPERATOR AND ADDRESS
1988 - Open

OBJECT LOCATED Center of adjoining claim boundary

Mining Division Winnipeg

Lat.	49° 45.28'	Long.	95° 13.85'	UNCERTAINTY:	100 m
Sec.	17, 20	Tp.	9	R.	17 EPM

DESCRIPTION OF DEPOSIT

The deposit is situated within two prominent sets of fractures in Archean metavolcanics. The fractures intersect at a large angle.

HISTORY OF EXPLORATION AND DEVELOPMENT

The deposit is located about 0.4 km east of Star Lake and 2 km north of the Trans-Canada Highway.

Scheelite was discovered near the claim boundary of Wolf No. 1 (W 8743) staked by C. Adair in 1938 and Letain (W 10613) staked by C.F. Letain in 1942.

In 1942 J.S. DeLury reported that although the outcrops are small, a considerable percentage of scheelite was observed under an ultraviolet lamp. Arsenopyrite was noted to be disseminated in some of the country rock and Mr. Letain stated that small quartz stringers gave gold values as high as 39.1 g/t (1.14 oz/ton).

The claims were cancelled in 1947 and a year later partly restaked by H.V. Bauslaugh as Black Fr. No. 6 (16140) and Baussie No. 1 (W 16142). In 1949 the claims were assigned to Howe Bay Gold Mining Co. Ltd. (NPL) and later in the same year cancelled.

In 1954 D.A. McLeod partly restaked Wolf No. 1 as Don No. 4 (W 20772) and then assigned it to D.J. Birse. Two years later Birse assigned Don No. 4 to the Cobalt Consolidated Mining Corporation Limited which changed its name to Agnico Mines Limited in 1958. The claim was cancelled in 1960.

Associated minerals or products of value
gold.

REFERENCES

Davies, J.F., 1954, Geology of the West Hawk Lake - Falcon Lake area; Manitoba Department of Mines and Natural Resources, Mines Branch, Publication 53-4, p. 21-22.

Manitoba Mines Branch:
a Mining Recording Files; File No. 27458 (Letain), File No. 37773 (Wolf No. 1).

Springer, G.D., 1952, Geology of the Rennie - West Hawk Lake area; Manitoba Department of Mines and Natural Resources, Mines Branch, Publication 50-6, p. 17-18.

MAP REFERENCES

*Map 52E/11, West, Waugh, (Topographic), Scale 1:50 000.

Map 1192G, Caddy Lake, (Aeromagnetic), Scale 1:63 360.

Map 35552G, (Airborne Gamma Ray Spectrometry), Scale 1:250 000, Province of Manitoba, Province of Ontario, Geological Survey of Canada (1976).

Map 50-6, Rennie-West Hawk Lake area, (Geology), Scale 1:63 360 - Accompanying Report by Springer (1952), Manitoba Mines Branch.

Map 53-4, West Hawk Lake-Falcon Lake area, (Geology), Scale 1:12 000 - Accompanying Report by Davies (1954), Manitoba Mines Branch.

Preliminary Map 1975 F-8, Southeast Manitoba, (Geology), Scale 1:126 720, by C.F. Lamb, Manitoba Mineral Resources Division.

Preliminary Map 1976 F-3, Caddy Lake, (Geology), Scale 1:50 000, by D.A. Janes, Manitoba Mineral Resources Division.

Preliminary Map 1978 F-1, Kenora, (Geology), Scale 1:250 000, by D.A. Janes, Manitoba Mineral Resources Division.

Comp./Rev.	JB	PA
By Date	08-73	07-88

PRODUCT Beryllium **N.T.S. AREA** 52L/6 SW **REF.** BE 1

NAME OF PROPERTY:
ART and FRED Groups

OWNER OR OPERATOR AND ADDRESS
1988-open

OBJECT LOCATED: centre of Art No. 16 **MINING DIVISION** Winnipeg

Lat. 50° 19.2' Long. 95° 25.0' **UNCERTAINTY:** 500 m

Sec. 1, 2, 3, 10, 11 Tp. 16 R. 15 EPM

DESCRIPTION OF DEPOSIT

The property is underlain by gray oligoclase granite and granodiorite of Precambrian age. These rocks are cut by pegmatite dykes, which vary in dip, and which contain beryl.

HISTORY OF EXPLORATION AND DEVELOPMENT

The claim groups are located north of Burton Lake. They are approximately 6.4 km east and 3.2 km north of Pointe du Bois and Provincial Road No. 313.

The area has been staked only once: Art Nos. 15-18 (W29233-6) by H. David; Art Nos. 27-30 (W29244-7) by A. Bruneau; and Fred Nos. 1-12 (W29508-19) by B.E. Gooch in 1958. That year, the claims were assigned to Sudbay Exploration & Mining Limited, which changed its name to Sudbay Beryllium Mines Limited in 1960. The company holds a patent for a beryllium extraction process.

In 1959, Canadian Nickel Company Limited did an airborne EM survey in the area under Airborne Permit No. 26, using the Inco dual frequency (IP/OP) system (Non-confidential Assessment File No. 90008). From 1958 to 1962, 81 m^3 (2852 cu ft) of rock was removed from Fred No. 9, 10 m^3 (110 cu ft) from Fred No. 1 and 34 m^3 (1210 cu ft) from Art No. 29. An unknown amount of work was performed on Fred No. 7 and possibly other claims in the groups. Trenching and diamond-drilling was reported to have been done (Bannatyne, 1985).

The claims were cancelled in 1962.

In 1971, a helicopter EM and radiometric survey was done by Hudson Bay Exploration and Development Company Limited under Airborne Permit No. 93 (Non-confidential Assessment File No. 91686)

REFERENCES

Bannatyne, B.B., 1985: Industrial minerals in rare-element pegmatites of Manitoba; Manitoba Energy and Mines, Geological Services, Economic Geology Report ER84-1; p. 20.

Cerny, P., Trueman, D.L., Ziehlke, D.V., Goad, B.E., and Paul, B.J., 1981: The Cat Lake-Winnipeg River and the Wekusko Lake pegmatite fields, Manitoba; Manitoba Department of Energy and Mines, Mineral Resources Division, Economic Geology Report ER80-1, 216 p.

REFERENCES

Manitoba Mines Branch:
- a Corporation Files; Sudbay Exploration and Mining Limited.
- b Non-confidential Assessment Files; File Nos. 90008, 91686.

Mineral Development Sector; Corporation File "Sudbay Beryllium Mines Limited".

Springer, G.D., 1950: Mineral deposits of the Cat Lake-Winnipeg River area; Manitoba Mines Branch, Publication 49-7, 14p.

Wright, J.F., 1926: Geology and mineral deposits of Oiseau River map-area, Manitoba; Geological Survey of Canada, Summary Report 1924, Part B, p. 51-104.

Wright, J.F. and Stockwell, C.H., 1932: Oiseau Sheet (Marginal Notes); Geological Survey of Canada.

MAP REFERENCES

*Map 52L/6, West, Ryerson Lake, (Topo.), Scale 1:50 000, Mines and Technical Surveys, Canada.

Map 1194 G, Ryerson Lake,(Aeromag.), Scale 1:63 360, Manitoba Mines Branch and Geological Survey of Canada.

Map 36 252G, Pointe du Bois, (airborne gamma-ray spectrometry), Scale 1:250 000; compiled by Terra Surveys Ltd., Kenting Earth Sciences Ltd., Northway Survey Corporation Ltd.; Geological Survey of Canada, Province of Manitoba, Province of Ontario (1976).

Map 2059, Oiseau River area, (Geology), Scale 1:63 360, Accompanying report by Wright (1926), Geological Survey of Canada.

Map 274A, Oiseau Sheet, (Geology), Scale 1:63 360, Accompanying Marginal Notes by Wright and Stockwell (1932), Geological Survey of Canada.

Map 49-7, Cat Lake-Winnipeg River area, (Geology), Scale 1:63 360, Accompanying Report by Springer (1950), Manitoba Mines Branch.

Preliminary Map 1976 F-7, Ryerson Lake, (Geology), Scale 1:50 000; by D.A. Janes, Manitoba Mines Branch.

Preliminary Map 1978 F-2, Pointe du Bois (west part), (Geology), Scale 1:250 000, by D.A. Janes, Manitoba Mines Branch.

Map ER80-1-1, Cat Lake-Winnipeg River pegmatite field, (Geology), Scale 1:100 000, Accompanying Report by Cerny et al (1981), Manitoba Mineral Resources Division.

#Claim Map Series SW 6, 52L, Scale 1:31 680, circa 1961, Mining Recording, Manitoba Mines Branch.

Comp./Rev.		CC	PA
By Date	01-61	10-73	05-88

MANITOBA ENERGY AND MINES **MINERAL INVENTORY FILE NO. 210**

PRODUCT Tin **N.T.S. AREA** 52L/6 NW **REF.** SN 3

NAME OF PROPERTY:
Stannite, Cubo, Odd-West

OWNER OR OPERATOR AND ADDRESS
Cubo-Stannite Dyke:
1988-Fred Sellers
Box 622
Lac du Bonnet, Manitoba
ROE 1A0
Odd West Dyke:
1988-Tantalum Mining Corporation
of Canada Limited
Box 2000
Lac du Bonnet, Manitoba
ROE 1A0

OBJECT LOCATED: Sn showing (Cubo No. 1 dyke) **MINING DIVISION** Winnipeg

Lat. 50° 26.69' Long. 95° 22.54' UNCERTAINTY: 500 m

Sec. Tp. 17 R. 16 EPM

DESCRIPTION OF DEPOSIT

"The country rock is quartzose sediments and small blocks of these rocks are included in the marginal part of the pegmatite mass...The only exposure noted that shows cassiterite is approximately 430 feet (131 m) west of No. 1 post of Stannite No. 1.....Here a small outcrop...is exposed over an area of 4 square feet (0.4 m^2)...the cassiterite is concentrated in pockets along the hanging wall...this outcrop contains beryl. The cassiterite crystals are up to 1/2 inch (1 cm) long, and in small bunches distributed erratically throughout the small outcrop." (Wright, 1932). "The outcrop is part of a pegmatite dyke that strikes east-west and dips north 30° to 40°. (There is) a decrease in cassiterite towards the center of the dyke." (Derry, 1930).

The pegmatite dykes (Cubo, Stannite, Odd-West) intrude Archean metasediments (greywacke, quartzite, quartz-mica gneisses and schists) of the Rice Lake Group. The dykes consist of fine to coarse-grained assemblages of quartz-feldspar-muscovite, with various rare-element minerals.

The Cubo No. 1 dyke "consists of a small ridge 12 m long, 1.2 to 2.4 m wide, rising 1.5 m above the surrounding muskeg" (Bannatyne, 1985). It contains coarse red feldspar (Bannatyne, 1985) and a mass (31 m long and 7.6 m wide) of large crystals (20 x 10 cm) of muscovite and quartz (Non-Confidential Assessment File No. 91556), grading to a fine-grained assemblage eastwardly. A quartz-muscovite phase in the north part of the dyke reportedly contained abundant black cassiterite crystals up to 12 mm across, in a 0.2 m^2 (2 sq ft) area (Bateman, 1943; see Bannatyne, 1985). Davies (1955) reported the cassiterite-bearing zone to be 0.3 m (1 ft) wide, with an exposed length of

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Associated minerals or products of value
beryllium, lithium, tantalum, (gallium, rubidium, cesium).

DESCRIPTION OF DEPOSIT cont'd

about a metre. "The zone is thickest where it is covered by the swamp, and thins eastward....The cassiterite occurs both as isolated crystals and as aggregates of crystals" (Bannatyne, 1985). Small white beryl crystals have also been noted.

Forty-five metres east of the Cubo No. 1 outcrop, is the Stannite pegmatite which outcrops on the north slope of a rock ridge over a length of 140 m. "The pegmatite intrudes metagreywacke and quartzite, strikes 280° and dips nearly vertically" (Bannatyne, 1985). In the eastern part where the dyke is 3.3 m wide, three zones were noted: a 90 cm wall zone consisting of medium-grained quartz + albite + muscovite; a 10-20 cm zone of white feldspar + quartz + muscovite + tourmaline; a 30 cm core zone of banded aplite with garnet and tourmaline (Bannatyne, 1985).

Large greyish spodumene crystals (up to 25 x 12 cm and 15 x 15 cm) were noted in a small pit located near the centre of the outcrop, in association with quartz, plumose mica, and coarse-grained pink and pink + grey perthite (Bannatyne, 1985). Fine-grained spodumene + quartz intergrowths, purplish and green lithian muscovite, beryl, cleavelandite, tourmaline (including rubellite), tantalite, triphylite, purpurite, petalite pseudomorphs, amblygonite-montebrasite, and rare cassiterite have also been reported in the dyke.

The Odd-West dyke is approximately 149 m long, 7-21 m wide (Non-Confidential Assessment File No. 92529), and strikes from 250° at the south end to 350° at the west end, and dips steeply north (Bannatyne, 1985). It consists mainly of "coarse grained white, grey and pink albite and microcline-perthite with large clots of reddish weathering muscovite, some greenish lithium muscovite and a notable amount of quartz" (Bannatyne, 1985). It also has a 5-15 cm wide, fine grained border zone of quartz, albite, and 'red-tarnished' mica. Accessory minerals include radiating clusters of black and green tourmaline (verdelite), and grains of blue apatite. The dyke also contains clay pods (pseudomorphs after pollucite) with up to 0.24% Cs_2O, allemontite (AsSb), rare tapiolite, stibiotantalite, antimonian microlite, montebrasite, spodumene, and cassiterite (Bannatyne, 1985; Cerny and Turnock, 1971).

HISTORY OF EXPLORATION AND DEVELOPMENT

At least three dykes are known in the area. The Stannite dyke occurs 45 m east of the Cubo No. 1 dyke. Both dykes occur approximately 610-670 m north and 213-355 m west, of the west end of Rush Lake in the Bird River area. Another dyke known as the Bernic or Odd-West dyke (see also: 52 L/6 SN 5), occurs approximately 244 m north of the Stannite pegmatite. The nearest access road is Provincial Road No. 315 which is 1.75 km north of the Cubo deposit.

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

The following claims were staked over the Stannite and Cubo No. 1 dykes between 1928 and 1962:

Claim	Year	Owner
Rush No. 3 (W10030)	1928	Ernest Adolph
	-assigned Jack Nutt Mines Ltd. in 1928	
	-cancelled in 1932	
Byrne 5, 7	?	?
Pine (W7410)	1936-1939	Kenneth E. Miller
Cubo No. 1 (W9597	1939-1940	Kenneth E. Miller
	1940-1947	M.C. Van der Voort
Tan 2	1948 - ?	?
B.B. No. 2 (W17616)	1949-1952	P. Osis
Axe No. 2	?	?
Tin No. 2 (W20884)	1954-1955	P. Osis
Stan No. 2 (W25635)	1956-1957	Alex Sawka
Sno No. 2 ((W29573)	1958-1960	Wm. Jamen
	1960-1962	Lou B. Murdoch
Space 2 (W35246)	1962-1963 (?)	?

The Odd-West dyke area occurs near the northern boundary of the above claims. The area was originally staked under Stannite No. 1. The following restakings occurred over the Odd-West dyke area between 1933 and 1962:

Claim	Year	Owner
Lo (W1955)	1933-1936	Chos. Libert
Star No. 2 (W7387)	1936-1938	John Conley
Cubo No. 4 (W9599)	1939-1940	G.H. Dravson
	1940-1947	M.C. Van der Voort
Tan 2	1948 - ?	?
Peg. No. 10 (W19222)	1953-1957	Oscar Lagsidin
Tub No. 10 (W28745)	1957-1958	E.R. Karklin
Tub No. 15 (W30713)	1958	John Curie
	1959-1962	Frank Brown

According to Wright (1932), "...the Stannite group (is controlled by) K.E. Miller and associates. Only a small amount of surface work has been done to expose these pegmatites up to the middle of June, 1929". The next year, triphylite and purpurite were apparently noted in the Stannite dyke (McCartney, 1930 in Bannatyne, 1985, p. 57). Pitting and trenching was reportedly carried out in the Pine claim area in 1937, with some 16 m^3 (580 ft^3) of material removed (Mineral Inventory card 52L/6 SN 4). The dyke on the Stannite claim was re-examined in 1940-42 by the Federal Department of Mines and Resources (Mulligan, 1975, p. 98).

In 1943, the Cubo No. 1 dyke was x-ray drilled by God's Lake Gold Mines Limited and "trenched to the north and south and also along strike to the west" (Bannatyne, 1985, p. 57); two holes totalling 370 m were drilled and an outcrop was mapped according to a report by M.C. Van der Voort (Non-Confidential Assessment File No. 91448).

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

In 1966, the Bernic No. 12 (W39790) claim was staked over the three dykes by John Donner. The claim was assigned to Samuel Ciglen the next year. The Odd-West dyke was mapped in detail, trenched and bulk sampled, late in 1967 and was reported to contain tin and tantalum (Non-Confidential Assessment File No. 91556). It has apparently been drilled extensively.

In 1968, A.C.A. Howe International Limited mapped the area and did a magnetometer survey over the Bernic group of claims, for Tantalum Mining Corporation of Canada Limited (Tanco) (Non-Confidential Assessment File Nos. 91556, 91447).

In 1970, the Bernic No. 12 claim was assigned to Bernic Lake Mines Ltd. which had apparently been formed through a 60/40 arrangement between Northern Goldfield Investment Limited (Canadian subsidiary of The Goldfield Corporation, N.Y.) and Barrington Explorations (Northern Miner, January 18, 1968). The claim was surveyed as Lot 2357, Group 124, Plan 17807 (area: 304 ha land, 27.8 ha water) in June 1973, and was cancelled in December 1973. The area was immediately restaked as CB 5961 by Tanco.

Between 1959 and 1974 several airborne surveys were done in the area.

Table 1. Airborne surveys in the Rush lake area.

Permit	Company	Type of Survey	Year	Assessment File No.
AP26	Canadian Nickel Company Limited	Airborne EM (INCO dual frequency (IP/OP)	1959	90008
AP82	Keevil Mining Group Limited	Radiometric (one flight line)	1969	91677
AP93	Hudson Bay Exploration and Development Company Limited	Helicopter EM & radiometric survey	1971	91686
AP116	Falconbridge Nickel Mines Limited	Airborne EM & AMAG (aerodat IP/OP)	1974	91564

In 1976, Tanco did some reconnaissance prospecting and sampled dykes in the area (Non-Confidential Assessment File No. 92529). Three of the nine dykes examined are located on the former Bernic No. 12 claim. Dyke No. 3 (Stannite dyke?) and Dyke No. 4 (Odd-West dyke?) were mapped at a scale of 1:300. Dyke No. 4 (Odd-West dyke?) in which beryllium and spodumene were found, measures 149 m (487.5 ft) in length, and ranges from 7 m (22 ft) to 21 m (67.2 ft) in width. Analyses of muscovite samples collected from these dykes are shown in Table 2.

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

Table 2. Mica Analyses (source: Non-Confidential Assessment File No. 92529).

Dyke	Rb_2O	Li_2O	Ga
No. 3	0.60	0.22	0.190
No. 4	0.25	0.47	0.005
	0.65	0.40	0.013
No. 9	0.12	0.80	0.000

Three partial chemical analyses of samples of spodumene and spodumene-quartz pseudomorphs after petalite from the Cubo-Stannite dyke area, done by R.M. Hill and R. Chapman, indicated in wt%: 0.09%, 0.09%, 0.22% Na_2O, 0.21%, 0.21%, 0.30% Fe_2O_3 (total Fe as Fe_2O_3), and 7.66%, 7.32%, 4.78% Li_2O respectively (Cerny et al., 1981, p. 104).

CB 5961 was cancelled in September 1983.

The Odd-West dyke was restaked as Odd 1 (W48846) by W.C. Hood in November 1983, as Tack (W50767) by Esso Resources Canada Limited in 1986, and as Oddity (W52102) by Tanco in 1988 (see: 52 L/6 SN 5). Tanco is owned by Hudson Bay Mining and Smelting Co., Limited (37.5%), Kawecki Berylco Industries (37.5%), and the Manitoba Government.

The Alan (W50747) claim was staked over the Stannite and Cubo No. 1 dykes in 1984, and was restaked as Toe (W50709) in 1986, by Fred Sellers.

REFERENCES

Bamburak, J.D., 1980, Mineral Inventory of Mnnitoba; Manitoba Department of Energy and Mines, Mineral Resources Division, Economic Geology Report ER79-6, 41p.

Bannatyne, B.B., 1972, Pegmatite project; in Summary of Geological Fieldwork 1972; Manitoba Department of Mines, Resources and Environmental Management, Mines Branch, Geological Paper 3/72, p. 50-53.

Bannatyne, B.B., 1974, Pegmatite project; in Summary of Geological Fieldwork 1974; Manitoba Department of Mines, Resources and Environmental Management, Mineral Resources Division, Exploration and Geological Survey Branch, Geological Paper 2/74, p. 50.

Bannatyne, B.B., 1985, Industrial minerals in rare-element pegmatites of Manitoba; Manitoba Energy and Mines, Geological Services, Economic Geology Report ER84-1, p. 56-57.

Bateman, J.D., 1943, Tin in Manitoba; Canadian Mining Journal, v. 64, p. 273-278.

REFERENCES

Cerny, P. and Brisbin, W.C., 1982, The Osis Lake pegmatitic granite, Winnipeg River district, southeastern Manitoba; in Granitic Pegmatites in Science and Industry, ed. P. Cerny; Mineralogical Association of Canada, Short Course Handbook, v. 8, p. 552.

Cerny, P., Trueman, D.L., Ziehlke, D.V., Goad, B.E. and Paul, B.J., 1981, The Cat Lake-Winnipeg River and the Wekusko Lake pegmatite fields, Manitoba; Manitoba Department of Energy and Mines, Mineral Resources Division, Economic Geology Report ER80-1, p. 85-87, 104, 125, 152.

Cerny, P. and Turnock, A.C., 1971, Pegmatites of southeastern Manitoba; in Geoscience Studies in Manitoba, ed. A.C. Turnock; Geological Association of Canada, Special Paper No. 9, p. 122-123.

Davies, J.F., 1955, Geology and mineral deposits of the Bird Lake area; Manitoba Mines Branch, Publication 54-1, p. 43.

Derry, D.R., 1930, Tin-bearing pegmatites in eastern Manitoba; Economic Geology, v. 25, No. 2, p. 152-153.

Langridge Map Service; Map 8B, 1967.

Manitoba Mines Branch:
a Non-confidential Assessment Files; File Nos. 90008, 91447, 91448, 91556, 91564, 91677, 91686, 92520, +92529.
b Unpublished Information Files; 52L/5,6.

Mulligan, R., 1975, Geology of Canadian tin occurrences; Geological Survey of Canada, Economic Geology Report No. 28, p. 98-100.

Phillips, K.A., 1978, Minerals of Manitoba, Volume 1: Non-metallic and pegmatitic; Manitoba Department of Mines, Resources and Environmental Management, Mineral Resources Division, MRD Educational Series 78/1, p. 74.

Springer, G.D., 1950, Mineral deposits of the Cat Lake-Winnipeg River area; Manitoba Mines Branch, Publication 49-7, p. 13.

Wright, J.F., 1926, Geology and mineral deposits of Oiseau (Bird) River map-area; Geological Survey of Canada, Summary Report 1924, Part B, p. 51-104.

Wright, J.F., 1930, Gold, copper-nickel and tin deposits of southeast Manitoba; Geological Survey of Canada, Summary Report 1929, Part B, p. 169-170.

Wright, J.F., 1932, Geology and mineral deposits of a part of southeastern Manitoba; Geological Survey of Canada, Memoir No. 169, p. 107.

Wright, J.F. and Stockwell, C.H., 1932, Oiseau Sheet (Marginal Notes); Geological Survey of Canada.

NAME OF PROPERTY
Stannite, Cubo, Odd-West

N.T.S. AREA 52 L/6 NW

FILE NO. 210
REF. SN 3

MAP REFERENCES

Map 52L/6, West, Ryerson Lake, (Topographic), Scale 1:63 360 - Mines and Technical Surveys, Canada.

Map 1194 G, Ryerson lake, (Aeromagnetic), Scale 1:63 360 - Manitoba Mines Branch and Geological Survey of Canada.

Map 36252G, Pointe du Bois, (Airborne Gamma-ray Spectrometry), Scale 1:250 000, Geological Survey of Canada, Province of Manitoba, Province of Ontario (1976).

Map 2059, Oiseau River area, (Geology), Scale 1:63 360 - Accompanying Report by Wright (1926), Geological Survey of Canada.

Map 274 A, Oiseau Sheet, (Geology), Scale 1:63 360 - Accompanying Marginal Notes by Wright and Stockwell (1932), Geological Survey of Canada.

Map 49-7, Cat Lake-Winnipeg River area, (Geology), Scale 1:63 360 - Accompanying Report by Springer (1950), Manitoba Mines Branch.

#Map 54-1, Bird Lake area, (Geology), Scale 1:12 000 - Accompanying Report by Davies (1955), Manitoba Mines Branch.

Map, Bernic Group, (Geology), Scale 1:2400, by A.C.A. Howe International Ltd., in Non-confidential Assessment File No. 91556, Manitoba Mines Branch.

Preliminary Map 1972 F-1, Geological compilation map of the Bird River area, (Geology), Scale 1:50 000, by D.L. Trueman, Manitoba Mines Branch.

Preliminary Map 1975 F-9, Bird River area East, (Geology), Scale 1:31 680, by D.L. Trueman, Manitoba Mines Branch.

Map ER80-1-1, Cat Lake-Winnipeg River pegmatite field, (Geology), Scale 1:100 000 - Accompanying Report by Cerny et al.(1981), Manitoba Mineral Resources Division.

Map ER30-1-3, Winnipeg River pegmatite district, (Structural Geology), Scale 1:50 000 - Accompanying Report by Cerny et al.(1981), Manitoba Mineral Resources Division.

*Map ER 79-6-10, Mineral Inventory deposit location map of the Bird River area (parts of 52L/5, 6, 11, 12), Scale 1:50 000 - Accompanying Report by Bamburak (1980), Manitoba Mines Branch.

Claim Map Series NW 6, 52L, Scale 1:31 680, Mining Recording, Manitoba Mines Branch.

REMARKS

Other claims covering tin-bearing pegmatites in this area are: Rush (52L/6 SN 4) and Odd (52L/6 SN 6).

Comp./Rev.		CC	AJ	PA
By Date	02-68	11-73	06-77	07-88

MANITOBA ENERGY AND MINES **MINERAL INVENTORY FILE NO. 211**

PRODUCT Tin **N.T.S. AREA** 52L/6 NW **REF.** SN 4

NAME OF PROPERTY:
Rush

OWNER OR OPERATOR AND ADDRESS
1988 - Open

OBJECT LOCATED: Centre of Rush M.C. **MINING DIVISION** Winnipeg

Lat. 50° 26.4' Long. 95° 22.8' **UNCERTAINTY:** 500 m

Sec. 19 Tp. 17 R. 16 EPM

DESCRIPTION OF DEPOSIT

The country rock on the Rush claim is a metamorphosed Archean assemblage of greenstones and quartz-rich sediments that are partially altered to mica schists (Bateman, 1943). These rocks were strongly folded and "successfully invaded" by quartz-diorites, grandodiorite and pegmatites. The pegmatites range considerably in texture, from a fine-grained pegmatitic granite with lath-shaped crystals of albite-oligoclase and areas of cleavelandite as the main constituents, to a type of irregular grain, consisting of large crystals of quartz, feldspar, and muscovite. Some outcrops show excellent graphic intergrowths of quartz and pink to white feldspar (Wright, 1930). The economic value of the pegmatites is in the cassiterite which is of "erratic description" and is associated with the quartz and muscovite phases in the hanging walls of the pegmatite (Springer, 1950).

The pegmatite is continuous along a distance of 396 m (1300 ft) with a maximum width of 76 m (250 ft) (Davies, 1955). The average strike of the deposit is nearly east-west with a dip of approximately 75° S. Accessory minerals in the deposit include tourmaline (in crystals up to 7.62 cm), spodumene, minor beryl, rare cassiterite, arsenopyrite, sphalerite, amblygonite, triphylite (up to 127 x 76 mm in the central part of the dyke), lepidolite, fluorite, epidote, magnetite, garnet, pseudo-ixiolite. Spodumene + quartz intergrowths have also been reported.

HISTORY OF EXPLORATION AND DEVELOPMENT

The Rush claim is located 671 m west of the west end of Rush Lake, in the Bird Lake area. The Rush (10027) was first staked by Ejnar Nielson in 1928. A year later, he assigned the claim to Jack Nutt Mines Limited, which changed its name the same year to Consolidated Tin Corporation Limited. On the 'Rush' property consisting of 15 claims, a crew of ten men did surface exploration and trenching. Picked samples from a trench 73 m x 1.8 m (240 x 6 ft) deep indicated values as high as 15% tin, 8% zinc (Northern Miner, May 30, 1929).

Associated minerals or products of value
feldspar, lithium, zinc, tantalum, niobium, copper.

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

Assay values of up to 20% tin, and indications of copper were also reported (Jack Nutt Mines Limited, Corporation File). "Spodumene and amblygonite were reported by McCartney (1930) to occur in the bottom of a pit on the northwestern side of the outcrop....two amblygonite crystals about 15 cm square in a glassy quartz matrix were observed by McCartney when the trenches were fresh" (Bannatyne, 1985, p. 57). Minor cassiterite was noted in the trenches by Wright (1932). The Rush M.C. was cancelled in 1932.

Kenneth Miller restaked Rush as Pine, and Pine No. 2 (W7412, 7410) in 1936. Pitting and trenching were carried out in 1937 with some 16 m^3 (580 cu ft) of material removed. The claim was cancelled in 1939. MX (W8704) was staked by M.X. Gillerman in 1938 and was cancelled in 1942. No work was reported during this time. In 1939-40, Cubo No. 3 and No. 5 (W9598 and W9703) were staked by Kenneth Miller. A portion of the original Rush claim was included in this staking. The claims were assigned to M.C. Van der Voort in 1940 and cancelled in 1948.

Millie No. 1 (W1063) was staked by S. Miller in 1941, and in 1942 was assigned to Mr. Van der Voort. The claim was cancelled in 1947. The dykes on the Rush claims were re-examined in 1940-1942 by the Federal Department of Mines and Resources (Mulligan, 1975, p. 98). Henry Derksen staked S.N. No. 1 (W11415) in 1943 and shortly after assigned it to God's Lake Gold Mines Limited. This claim was cancelled in 1945.

A lull in staking then occurred with Rush No. 9 (W22344) not being staked until 1955 by Wm. Jamsen. He failed to report any work and the claim was cancelled in 1956. The Sno No. 9 (W29580) was a restaking of the original Rush M.C. by Wm. Jamsen in 1958. The claim was grouped with Sno Nos. 1-19 in 1959 and several pits and trenches were dug. Some 54 m^3 (1920 cu ft) of material were removed from Sno No. 9. In 1959, Canadian Nickel Company Limited did an airborne EM survey in the area under Airborne Permit No. 26, using the INCO dual frequency (IP/OP) system (Non-Confidential Assessment File No. 90008). In 1960 the claim was assigned to Lon B. Murdock and in 1962 the claim was cancelled.

Heather Nos. 2, 6 (W37275, 37274) were staked by R. McKenzie in 1964 and cancelled in 1965. R. McKenzie restaked the claims as Heather Nos. 2, 3 (W38500, 38501) in 1965 and assigned them the same year to E.G. Heatherington. The claims were cancelled in 1967. Heather Nos. 2, 3 (W40824, 40825) were again restaked by R. McKenzie in 1967 and assigned, the same week, to E.G. Heatherington. A dispute arose between John Donner and E.G. Heatherington over the ownership of the claims and John Donner's claim, Space No. 2 (W40110), was recognized in 1968. A magnetic survey and geologic mapping (Scale 1:2400) were completed by A.C.A. Howe International Limited in 1968-69, and further sampling was recommended to test out likely prospects (Non-Confidential Assessment File Nos. 91447, 91313). In August, 1969, a radiometric survey, recording one flight line in this area, was done under Airborne Permit No. 82 which had been issued to Keevil Mining Group Limited (Non-Confidential Assessment File No. 91677). The claims were grouped with Yitt Nos. 20-33 and Space Nos. 1-8 in 1970 and were cancelled in 1971.

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

On June 22, 1971, CB 4443 (167.2 ha) covering eight previous claims was issued to R.A. Crouse. That year, a helicopter EM and radiometric survey was done in the area by Hudson Bay Exploration and Development Company Limited (H.B.E.D.) under Airborne Permit No. 93 (Non-Confidential Assessment File No. 91686). The claim block was cancelled on August 15, 1973.

CB 5996 (270.3 ha) covering thirteen previous claims was issued to A.T. Baumgartner of H.B.E.D. on February 7, 1974. That year, Falconbridge Nickel Mines Limited ran an airborne electromagnetic and an airborne magnetometer survey using the Aerodat (IP/OP) system, under Airborne Permit No. 116 (Non-Confidential Assessment File No. 91564). The claim was assigned to H.B.E.D. on January 1, 1975, but was cancelled on April 29, 1976.

In May 1978, CB 8270 (195 ha) was staked by H. Nilsson for Tantalum Mining Corporation of Canada Limited, which is owned by Hudson Bay Mining and Smelting Co., Limited (37.5%), Kawecki Berylco Industries (37.5%) and the Manitoba Government (25%). A chemical analysis of a sample of 'disordered ferrocolumbite' from the area indicated contents (in wt %) of 21.1% Ta_2O_5, 57.7% Nb_2O_5, 2.0% TiO_2, 0.3% Al_2O_3, 13.1% FeO, 5.9% MnO (total 100.1%) (Cerny et al., 1981, p. 121). CB 8270 was cancelled on November 17, 1983.

In June 1985, Tick 11 (W50949) covering 210 ha was staked by Donald MacEachern for Esso Resources Canada Limited. The claim was cancelled August 6, 1987.

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NAME OF PROPERTY **N.T.S. AREA** 52 L/6 NW **FILE NO.** 211
Rush **REF.** SN 4

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b Unpublished Information Files; 52L/5,6.
c Corporation Files; Consolidated Tin Corporation Limited; Jack Nutt Mines Limited, The.

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MAP REFERENCES

*Map 52L/6, West, Ryerson Lake, (Topographic), Scale 1:63 360 - Mines and Technical Surveys, Canada.

NAME OF PROPERTY **N.T.S. AREA** 52 L/6 NW **FILE NO.** 211
Rush **REF.** SN 4

MAP REFERENCES cont'd

Map 1194 G, Ryerson lake, (Aeromagnetic), Scale 1:63 360 - Manitoba Mines Branch and Geological Survey of Canada.

Map 36252G, Pointe du Bois, (Airborne Gamma-ray Spectrometry), Scale 1:250 000, Geological Survey of Canada, Province of Manitoba, Province of Ontario (1976).

Map 2059, Oiseau River area, (Geology), Scale 1:63 360 - Accompanying Report by Wright (1926), Geological Survey of Canada.

Map 274 A, Oiseau Sheet, (Geology), Scale 1:63 360 - Accompanying Marginal Notes by Wright and Stockwell (1932), Geological Survey of Canada.

Map 49-7, Cat Lake-Winnipeg River area, (Geology), Scale 1:63 360 - Accompanying Report by Springer (1950), Manitoba Mines Branch.

Map 54-1, Bird Lake area, (Geology), Scale 1:12 000 - Accompanying Report by Davies (1955), Manitoba Mines Branch.

Preliminary Map 1972 F-1, Geological compilation map of the Bird River area, (Geology), Scale 1:50 000, by D.L. Trueman, Manitoba Mines Branch.

Preliminary Map 1975 F-9, Bird River area East, (Geology), Scale 1:31 680, by D.L. Trueman, Manitoba Mines Branch.

Map ER80-1-1, Cat Lake-Winnipeg River pegmatite field, (Geology), Scale 1:100 000 - Accompanying Report by Cerny et al.(1981), Manitoba Mineral Resources Division.

Map ER80-1-3, Winnipeg River pegmatite district, (Structural Geology), Scale 1:50 000 - Accompanying Report by Cerny et al.(1981), Manitoba Mineral Resources Division.

#Claim Map Series NW 6, 52L, Scale 1:31 680, circa 1932, Mining Recording, Manitoba Mines Branch.

REMARKS

1. For additional information regarding tin-bearing pegmatites in this area, see Odd (52L/6 SN 5), and Stannite, Cubo, Odd-West (52L/6 SN 3).

2. Samples from a pegmatite dyke, 100 m NE of the Rush pegmatite, returned 6.95%, 7.23%, 5.68% Li_2O and 0.73%, 0.31%, 0.66% Na_2O respectively in three partial chemical analyses by R.M. Hill and R. Chapman (Cerny et al., 1981, p. 104). Wright (1932?) noted green and bluish tourmaline and lilac-colored lithium mica in this area.

3. At the west end of Rush Lake, a strongly radioactive sample (hudrogene-autunite) was reported (Bannatyne, 1972, 1974). Spodumene, beryl, and lepidolite samples were also collected from a rock pile located near a pink pegmatitic granite in this area (Bannatyne, 1985, p. 57).

Comp./Rev.		CGS	PA
By Date	02-68	10-73	03-88

MANITOBA ENERGY AND MINES **MINERAL INVENTORY FILE NO.** 196

PRODUCT Lithium **N.T.S. AREA** 52L/6NW **REF.** LI 7

NAME OF PROPERTY:
Buck - Coe - Pegli

OWNER OR OPERATOR AND ADDRESS
1988-The Lithium Corporation of
Canada, Limited
Suite 500,
67 Richmond St. W.
Toronto, Ontario
M5M 1Z5

OBJECT LOCATED: Centre of Buck M.C. **MINING DIVISION** Winnipeg

Lat. 50° 25.4' Long. 95° 23.5' **UNCERTAINTY:** 100 m

Sec. 7 Tp. 17 R. 16 EPM

DESCRIPTION OF DEPOSIT

The deposit is located in Archean metavolcanics (altered andesite) of the Rice Lake Group. It is in a series of pegmatite dykes of which at least ten are "known to outcrop in an east-west zone, 180 m wide and 900 m long" (Bannatyne, 1985, p. 50). See Fig. 1. The pegmatites vary in attitude "from east-west to northeast in strike, and sub-horizontal to near-vertical in dip" (Cerny et al., 1981).

The pegmatites are well zoned with 6 zones being described by Davies (1957). The 3rd zone, 1 m (4 feet) thick, contains large books of lithium mica. Some tourmaline and beryl also occur in this zone. Spodumene-quartz masses occur in the 4th zone. Amblygonite and some lithium micas occur in the 5th zone. The 6th zone is about 2 m (7 feet) thick and contains numerous amblygonite crystals up to 0.6 m (2 feet) long.

The main pegmatite on the Buck claim is somewhat assymetrically zoned (Fig.2). Fine-grained albite, and rare tantalite-columbite needles (in tourmaline) are found in the border zone; tourmaline and minor cassiterite in the wall-zone; rare tantalite-columbite in the intermediate zone; amblygonite crystals (up to 30 cm wide, 60 cm long), and triphylite (in masses to 90 x 60 x 30 cm) in the quartz-rich core zone (Bannatyne, 1985). Montebrasite (a lithium phosphate) in crystals 20-85 cm long (Lenton, 1979, p. 77), beryl 'a foot (30 cm) or more' in diameter (DeLury, 1926), garnet, apatite, lepidolite, spodumene, and pollucite alteration products that occur as green clay pods consisting of kaolinite, illite, montmorillonite, are also reported. The pegmatite is rich in fluorine and boron, and shows "a progressive inward enrichment in Li, Rb, Cs, and Be, and decreasing concentrations of Ca and Fe" (Lenton, 1979). Minor cassiterite occurs in several other dykes on the Buck claim.

In some of the dykes, blue apatite (with minor tetrahedrite) and purpurite occurs. According to Davies (1957), a particular feature of all the lithium-bearing dykes in the area is that they all contain several phosphate minerals: amblygonite, triphylite, purpurite, apatite. The phosphate ores

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Associated minerals or products of value
beryllium, tin, cesium, tourmaline, apatite, tantalum-columbium, feldspar, fluorine, boron, rubidium.

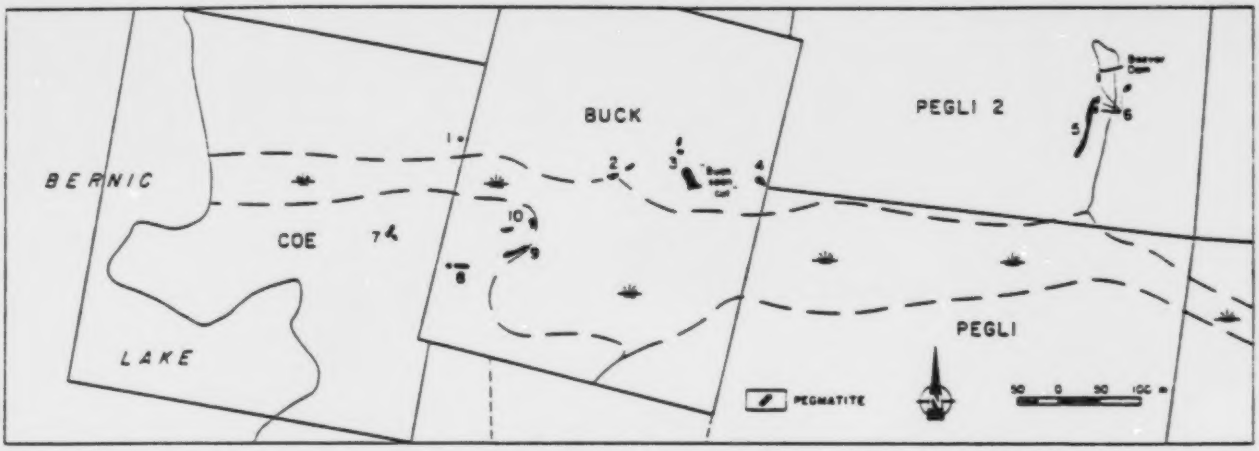
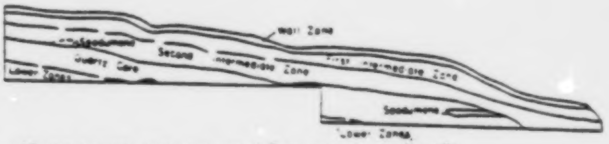
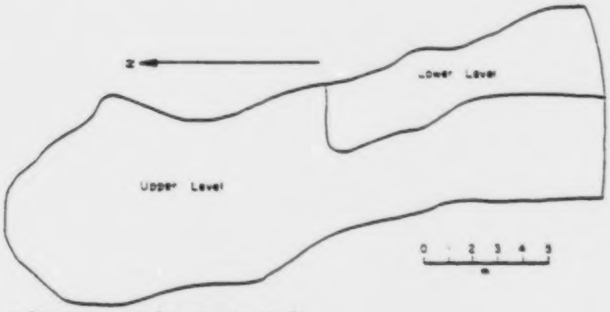


Figure 1: Location of Buck, Coe and Pegli pegmatites, east end of Bernic Lake. (Source: Bannatyne, 1985:50).



a) Section exposed along east wall of Buck open-cut (see Table 7)



b) Plan of open cut on Buck pegmatite (No 3)

Figure 2: Plan and section of Buck (No. 3) pegmatite. (Source: Bannatyne, 1985:52).

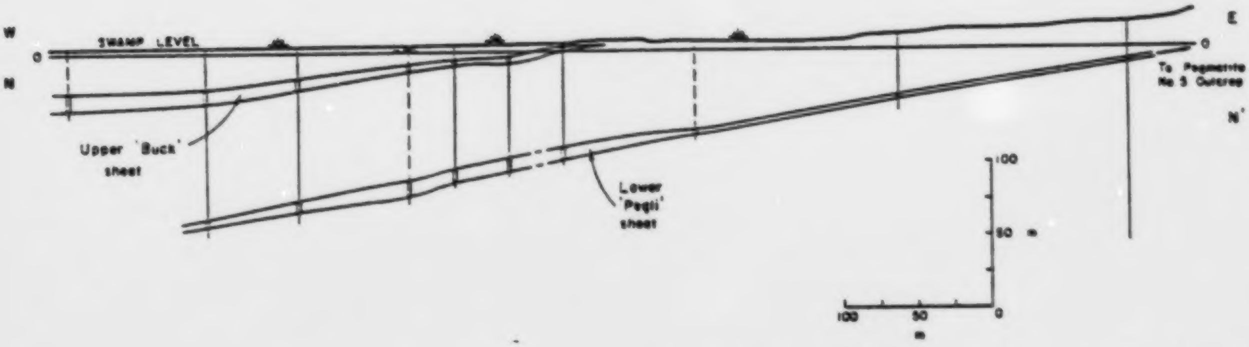


Figure 3: Diagrammatic cross-section of two pegmatite sheets, east end of Bernic Lake. (Source: Bannatyne, 1985: 55).

DESCRIPTION OF DEPOSIT cont'd

are reported to carry 6-8% Li_2O; the silicate ores (lepidolite, spodumene) 2-4% Li_2O (Lithium Corporation of Canada, Limited, Annual Report 1934). A dyke on the Coe claim "consists largely of petalite, an uncommon lithium-aluminum silicate" (Davies, 1955). The pegmatite No. 7 dyke (on the Coe claim) which has an exposed length of 9 m, contains petalite crystals up to 15 x 20 cm, with the largest crystal measured at 35 x 25 x 20 cm (Bannatyne, 1985). Associated with the petalite are greenish-yellow mica, purpurite, triphylite, amblygonite, and apatite; beryl and a tantalum mineral are accessory minerals (Bannatyne, 1985). Sicklerite (probably an oxidation product of triphylite-lithiophilite) has also been reported from the Coe claim (Cerny and Bristol, 1972).

Cerny et al. (1981, p. 91) reported patches of petalite over almost the full width of the Buck claim pegmatite. A 9 m drill-core intersection of a mass of pure petalite was obtained from a crestal area 'below the Buck open cut and to the east' (Bannatyne, 1985, p. 55).

Pegmatite No. 5 (on the Pegli claim) which has an exposed length of 64 m and an average thickness of 1.5 m, contains coarse quartz, perthite, pale yellow lithian muscovite, minor beryl and amblygonite, as well as quartz-spodumene intergrowths, cleavelandite, triphylite, altered phosphates, and green tourmaline. Lying parallel to this pegmatite, is pegmatite No. 6 (see Fig. 1) which contains coarse quartz, K-feldspar, pale yellow lithian muscovite, tourmaline and minor amblygonite, lepidolite (Bannatyne, 1985).

These two flat-lying pegmatites occur at a depth of 70 m below the Buck open cut, and may be outcrop expressions of a subsurface pegmatite sheet (the 'lower main Pegli' sheet) that dips 7° W, and varies from 2 to 16 m in thickness (Bannatyne, 1985). Similarly, pegmatite Nos. 3, 9, 10 on the Buck claim may be part of an upper subsurface pegmatite sheet (see Fig. 3) that also dips 7° W (Bannatyne, 1985). Bannatyne (1985, p. 55) reports that Cerny et al.(1981) project the two pegmatite sheets westward for a total distance of 3 km, to within 1.5 km of the eastern end of the Tanco pegmatite.

On the Brilliant (Pegli No. 2) M.C., cassiterite occurs in a pegmatite dyke.

Beryl also occurs but "the pale coloring and fracturing makes the material of no value as gem stone". However, "the beryllium content (12.74% BeO) of a specimen is sufficient.....for commercial purposes" (Stockwell, 1932).

HISTORY OF EXPLORATION AND DEVELOPMENT

The deposit is located at the east end of Bernic Lake, 8 km south of Provincial Road No. 315 and 4 km southeast of a side road off of No. 315.

It was reported that lithium-bearing minerals were discovered east of Bernic Lake by Mr. K.E. Miller in the summer of 1925 (Manitoba Mines Branch, Unpublished Information Files). Beryl, 'a foot (30 cm) or more in diameter', was reported on the Buck claim (DeLury, 1926).

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

The following stakings occurred in 1926:

Claim	Staker
Buck M.C. (39875)	Sigurberg Miller
Coe M.C. (40130)	Kenneth E. Miller (assigned to Sigurberg Miller in 1933).
Brilliant M.C. (40127)	Peter Osis

St. Joseph Nos. 6 and 9 (9827, 30) were staked in 1928 by J.H. Griffith and R. Griffith on what is now Pegli No.1, and 40 m^3 (1420 cu ft) of earth and rock were removed from three trenches. The next year it was assigned to G.I. Flynn and then to Manitoba Tin Company Limited. It was restaked as Lithia Fr. (11896) by K.E. Miller in 1929. Between 1932 and 1934, the Lithia Fr. (W11896) claim was probably restaked as Brilliant No. 1 by Peter Osis.

In 1934, G.W. Holloway restaked the Brilliant No. 1 and the Brilliant M.C. (W40127) claims as Harry M.C. (W3802) and Mac M.C. (W3801), respectively. However, R.I. Pickard disputed the claim boundaries of the Harry and Mac M.C. claims which overlapped with Buck and Coe. Holloway lost the dispute and the claims were cancelled. The area was restaked as Pegli Nos. 1, 2 (W4447,8) by R.I. Pickard in 1934 and assigned to K.M. Wengel and then to The Lithium Corporation of Canada, Limited (Inc. August 25, 1934).

In 1931, Consolidated Tin Mining Company Limited apparently quarried 181.4 tonnes of lithium minerals by the open-cut method mainly from pegmatite No. 3 on the Buck claim (Bannatyne, 1985, p. 50). See Fig. 1 and 2. In 1934, . pegmatite No. 7 on the Coe claim and pegmatite No. 9 on the Buck claim (see Fig. 1) were explored by drilling (Bannatyne, 1985, p. 33). Drilling results indicated a dip 50° S for a pegmatite on the Coe claim, and a 2 m drill-core intersection of pegmatite in the pegmatite No. 9 area.

In 1935, the Buck, Coe, Pegli Nos. 1 to 4 claims totalling 121.4 ha were grouped, and work done on the Buck M.C. was applied to these claims under Grouping Certificate W392. By November 1935, several tonnes of spodumene, amblygonite and triphylite were quarried from the Buck claim (see: History of Production). From 1928 to 1935, 23 m^3 (810 cu ft) of rock was removed from six trenches on the Coe claim. In 1935, a pit of 19 m^3 (672 cu ft) was dug (probably on the Pegli Nos. 1 and 2 claims).

It was reported that 194 m (636 ft) of diamond-drilling was done on the Buck M.C. claim by John Drybrough in 1936. The thickness of the pegmatite vein was shown at an average of 6.7 m (22 ft). "The Lithium ore outcrops over a length of 3,000 ft. (914 m) by a width of 600 ft. (183 m)." (company report, 1940). "... (the dyke) narrows at depth, 85 feet (26 m) down dip _the pegmatite was only 6 1/2 ft. (2 m) wide. It also appears to pinch out about 250 feet (76 m) north of the south end of the quarry." Reserves were estimated at 18 150 tonnes (20 000 tons) of lithium ore.

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

In the fall of 1936, The Lithium Corporation of Canada Limited built a 26 km (16 mi) long winter road from Bernic Lake to the 'railway siding'. During 1936-37, a car shipload of 29 tonnes (32 tons) of amblygonite was sent to the Maywood Chemical Company in New Jersey, U.S.A. It was reported that by November 1937, 907 tonnes (1000 tons) of rock were removed from the main trench on the Buck claim recovering 10% amblygonite, 10% spodumene, and over 5% triphylite (Canadian Mines Handbook, 1938, p. 163). Another test shipment of about 36 tonnes (40 tons) of amblygonite which was quarried and sorted from the main deposit was reportedly sent during the winter of 1938-39.

Preliminary experimental work by the Manitoba Mines Branch on lithium ores from various localities, indicated that beneficiation of a quartz-spodumene mixture using a decrepitation process developed by the U.S. Bureau of Mines was possible (Shepherd, 1938).

As of May 1, 1939, The Lithium Corporation of Canada Limited held options on the Buck and Coe claims. Perserverance Mining and Development Company Limited (Inc. May 1935, Ontario) took an option on 300 000 shares (60% interest) of The Lithium Corporation of Canada, Limited in which it already held a 20% interest (reported November 24, 1939).

In the winter of 1939-40, new ore bins were constructed and more mining equipment installed. Products from the operations included amblygonite, a quartz-spodumene mixture, triphylite, and a few tonnes (tons) of feldspar. In 1940, another grouping certificate (W666) was in effect. On November 28, 1940, the Buck and Coe claims were assigned to The Lithium Corporation of Canada Limited.

During 1940-42, 1186 tonnes of pegmatite were quarried from pegmatite No. 3 on the Buck claim (see: History of Production). It was reported that during the winter of 1941-42, three men worked for three months, stock-piling lithium ore at the Buck claim.

In 1947, the Buck, Coe, Pegli Nos. 1 and 2 claims were converted to 21-year leases, M-1798 to M-1801 respectively.

Initial drilling in 1955 indicated a potential ore zone of 272 230 tonnes (300 000 tons) grading 1.7% Li_2O; the drilling footage was then in excess of 1524 m (5000 ft) (The Lithium Corporation of Canada, Limited, Annual Report 1955). In 1955, four diamond-drill holes totalling 224 m (735 ft) were drilled on Pegli No. 2. Mogul Mining Corporation Limited (Inc. 1954; formerly Mogul Gold Mines Limited) financed The Lithium Corporation of Canada, Limited.

In 1956, 45 drill-holes totalling 4443 m (14 578 ft) were drilled on the Buck-Coe-Pegli group, outlining two subsurface pegmatites (Fig. 2). At least 12 of the 45 holes were drilled on the Buck claim, indicating a possible connection between pegmatite No. 3 and pegmatite No. 10. The large 'pegli' pegmatite was outlined in 3000 m of drilling: "a flat-lying sheet of pegmatite, 50 feet (15 m) thick, about 250 feet (76 m) below the dyke that is

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

exposed on the east side of the Buck claim.......A lithium-bearing band 1,700 ft. (518 m) long and 450 ft. (137 m) wide, with an average thickness of 16 feet (5 m) was outlined within the pegmatite" (Mulligan, 1965, p. 77). Extensive assays were done for lithium, and at a later date for tantalum (see Lenton, 1979, p. 4). Ore reserves were estimated at 725 950 tonnes (800 000 tons) with an average grade of 2.13% Li_2O (Davies, 1957). Reported estimates of ore reserves vary from 725 750 tonnes to 736 000 tonnes (see: Bannatyne, 1985, p. 4, 55; Northern Miner, January 6, 1972).

In 1959, Canadian Nickel Company Limited did an airborne EM survey over the area under Airborne Permit No. 26, using the Inco dual frequency (IP/OP) system (Non-confidential Assessment File No. 90008).

Mineral specimens collected from the property by Mulligan (1965, p. 78) indicated 9.71% amblygonite, 8.92% triphylite, 4.73% petalite.

In 1968, the leases were renewed for another 21-year period.

Mogul Mining Corporation Limited changed its name to Consolidated Mogul Mines Limited in 1958, to Mogul Mines Limited in 1967, and finally to International Mogul Mines Limited in 1968 when it amalgamated with Canadian Dyno Mines Limited, Lorado Uranium Mines Limited, and Yale Lead & Zinc Mines Limited. International Mogul Mines Limited held a controlling interest in The Lithium Corporation of Canada, Limited.

In 1970, petalite-bearing pegmatite No. 7, on the Coe claim, was explored by ten shallow drill-holes: short sections of pegmatite were intersected (Bannatyne, 1985, p. 53). In 1971, Hudson Bay Exploration and Development Company Limited did a helicopter EM and radiometric survey in the area under Airborne Permit No. 93 (Non-confidential Assessment File No. 91686). Some surface mapping and sampling of the Buck claim pegmatite was done by the Manitoba Mineral Resources Division in 1972, and core from the 1956 drilling was examined. An airborne EM/Mag survey using the Aerodat (IP/OP) system was done by Falconbridge Nickel Mines Limited under Airborne Permit No. 116 in 1974 (Non-confidential Assessment File No. 91564)

On January 11, 1975, Explored Area lease No. 8 (231.48 ha) covering the Buck, Coe, and Pegli Nos. 1 to 10 claims, was issued to The Lithium Corporation of Canada, Limited.

Several chemical analyses of samples from the pegmatites were reported by Cerny (1978), Lenton (1979), and Cerný et al. (1981). A partial analysis of a clay sample from the Buck dyke indicated 0.11% Li_2O, 0.05% Na_2O, 4.64% K_2O, 0.08% Rb_2O, 0.05% Cs_2O, 3.72% MgO, 0.13% CaO (Cerny, 1978). Analyses of spodumene and quartz/spodumene-intergrowth samples indicated contents of 3.96% and 4.69% Li_2O (Cerny et al., 1981, p. 104). Results of chemical analyses of columbite-tantalite samples are shown in Table 1.

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

Table 1: Chemical analysis of columbite-tantalite from the Buck claim
(Source: Cerny et al., 1981, p. 121)

Sample #	BEP-NE	BCNW-84	BCNW-107-1
Ta_2O_5, wt.%	42.9	33.7	64.4
Nb_2O_5	37.6	43.8	20.0
TiO_2	1.1	2.1	0.1
SnO_2	0.2	0.7	0.5
ZrO_2	0.0	0.0	0.0
Al_2O3	0.1	0.1	0.1
Sc_2O_3	0.0	0.0	0.0
Sb_2O_3	0.06	0.4	0.3
FeO	5.9	9.0	0.2
MnO	10.9	8.5	14.6
CaO	0.1	0.04	0.1
MgO	0.0	0.0	0.0
	98.9	98.3	100.3

BEP-NE	disordered manganocolumbite, BEP pegmatite
BCNW-84	manganotantalite, BCNW pegmatite
BCNW-107-1	interior part of a large ordered manganotantalite, BCNW pegmatite

Analyst: F.C. Hawthorne

Chemical analyses of petalite samples from the Coe claim indicated contents of 4.31%, 8.05%, 8.05% Li_2O (Cerny et al., 1981, p. 102); another partial chemical analysis indicated 2.33% Li_2O, 0.08% Na_2O, 8.35% K_2O, 1.87% Rb_2O, 0.46% Cs_2O, 5.22% MgO, 0.92% CaO, 12.74% FeO (Cerny et al., 1981, p. 102). Results of two other analyses of petalite samples are shown in Table 2.

Two samples of petalite from the Pegli claim were reported to contain 4.53% and 4.57% Li_2O (Cerny et al., 1981, p. 106). See Table 2.

Table 2: Chemical composition of petalite
(source: Cerny et al., 1981, p. 106)

	PET-14[1]	PET-15[2]	5-190[3]	2-199[4]
SiO_2 wt %	77.85	77.75	n.d.	n.d.
Al_2O_3	16.80	16.69	n.d.	n.d.
Fe_2O_3*	0.05	0.01	0.07	0.01
MgO	0.04	0.01	n.d.	n.d.
CaO	0.002	0.002	n.d.	n.d.
Li_2O	4.32	4.48	4.53	4.57
Na_2O	0.02	0.08	n.d.	n.d.
K_2O	0.07	0.03	n.d.	n.d.
H_2O-	0.06	0.03	0.09	0.07
H_2O+	0.33	0.23	0.39	0.36
Total	99.55	99.31	-	-

[1], [2]Coe; [3], [4]Pegli; *Total Fe as Fe_2O_3; n.d. - not determined.
Analysts: K. Ramlal, R.M. Hill and R. Chapman.

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

In May 1981, Conwest Exploration Company Limited held a major controlling interest in International Mogul Mines Limited. It was later reported that The Lithium Corporation of Canada, Limited which had been taken over by a company of Ontario businessmen, was being revived to safeguard rights to the property (Winnipeg Free Press, May 27, 1982). Some of the shareholders in The Lithium Corporation of Canada, Limited, as reported by the Financial Post Survey of Mines (1980-1986), include: J.L. Bitove, Bree Investments, R.A. Schiralli from 1980 to 1984; J.B. Investments Inc., R.A. Schiralli since 1985.

HISTORY OF PRODUCTION

1928-1935: 23 m^3 (810 ft^3) of rock was removed from 6 trenches on the Coe claim.

1931: 181.4 tonnes of lithium minerals were quarried by Consolidated Tin Mining Company Limited from the Buck claim (Bannatyne, 1985, p. 51).

To Nov. 1935: 144 tonnes (159 tons) spodumene, 59 tonnes (65 tons) of amblygonite and triphylite were removed from a trench 24 m long x 5 m deep (78 x 16 ft). The amblygonite assayed about 8.5% Li_2O; the triphylite when free from quartz assayed 8% Li_2O (Canadian Mines Handbook, 1936, p. 153).

1936-1937: 57 tonnes (63 tons) of amblygonite and 6 tonnes (7 tons) of triphylite and spodumene were quarried. The Li_2O content of the lithium ore was shown as 7.9%. 29 tonnes of amblygonite shipped to Maywood Chemical Company, New Jersey, U.S.A.

To Nov. 1937: 907 tonnes (1000 tons) of rock were removed from the main trench on the Buck claim, recovering 10% amblygonite, 10% spodumene, and over 5% triphylite (Canadian Mines Handbook, 1938, p. 163).

1938-1939: test shipment of 36 tonnes (40 tons) of amblygonite to Maywood Chemical Company.

1940: 100 tons (91 tonnes) of lithium ores were quarried. Analysis of the Li_2O was: amblygonite - at least 8%; triphylite - about 6%; spodumene - 3.45-3.95%.

An open cut of 30 x 10 m (97 x 32 ft) is located on the Buck claim (Rowe, 1956). "Considerable quantities (of rare minerals) have been hand-cobbed and stockpiled in bins" (Springer, 1950) (150 tons according to company reports).

1940-1942: ".....a total of 1186 tonnes of pegmatite was quarried from the Buck pegmatite No.3, and was hand-sorted into bins containing 9.5 tonnes of quartz-spodumene, 22.6 tonnes of amblygonite, 31.7 tonnes of 80% amblygonite, 27.2 tonnes of triphylite, and a few tonnes of tourmaline; 29 tonnes of amblygonite were sold (MRD files)." (Bannatyne, 1985, p. 50).

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- b Annual Reports; 7th-p. 65, 10th-p. 100, 14th-p. 56, 12th-p. 80;
- c Unpublished Information Files; File 52L/5,6;
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Preliminary Map 1975 F-9, Bird River area East (Geology), Scale 1:31 680, by D.L. Trueman, Manitoba Mines Branch.

Map ER80-1-3, Winnipeg River pegmatite district (Structural Geology), Scale 1:50 000, Accompanying report by Cerny et al., (1981), Manitoba Mineral Resources Division.

Map ER80-1-1, Cat Lake-Winnipeg River pegmatite field (Geology), Scale 1:100 000, Accompanying report by Cerny et al., (1981), Manitoba Mineral Resources Division.

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Map (unpublished), Pegli No. 2, W4448, Lot 1720, Group 124, Plan 4162, (Surveyed, 1940), Scale 1:2400, Mining Recording, Manitoba Mines Branch.

Claim Map Series NW 6, 52L, Scale 1:31 680, circa 1974, 1987, Mining Recording, Manitoba Mines Branch.

REMARKS

1. Drilling indicates the pegmatites are associated with a fault, and appear to be parallel to 'prominent shallow west-dipping joints on the Bernic Lake shoreline' (Cerny et al., 1981, p. 89).

2. Bannatyne (1985, p. 55) reports that Cerny et al. (1981) also "propose a probable hidden pegmatite granite, located between the Tanco and East Bernic pegmatites, as a common parental intrusion".

3. A hole drilled by Canol Metal Mines in 1961 was reported to have intersected the Buck dyke approximately 2 km west of the trench on the Buck claim (P. Cerny in Lenton, 1979, p. 17).

4. Uraninite may be present in pegmatite No. 4 on the Buck claim.

Comp./Rev.		CC	CFL	PA
By Date	6-68	11-73	01-79	04-88

PRODUCT Lithium **N.T.S. AREA** 52L/6SW **REF.** LI 3

NAME OF PROPERTY:
Gray

OWNER OR OPERATOR AND ADDRESS
1988 - Open

OBJECT LOCATED: Centre of claim **MINING DIVISION** Winnipeg

Lat. 50° 21.2' Long. 95° 21.8' UNCERTAINTY: 500 m

Sec. 17 Tp. 16 R. 16 EPM

DESCRIPTION OF DEPOSIT

The deposit is a lithium-bearing pegmatite dyke which intrudes Archean metavolcanics (andesites, trachytes, dacites, basalt) and metasediments (iron formation, quartzose sediments and chlorite schists) of the Rice Lake Group. Wright reported "...a small amount of grey curvilamellar lithia mica ... is scattered through pegmatite and aplite over an arc measuring 75 by 50 feet (23 x 15 m). A small amount of beryl is present. The deposit is of no economic value".

HISTORY OF EXPLORATION AND DEVELOPMENT

The deposit is located in a pegmatite dyke 13.7 km east and 4.02 km north of Pointe du Bois and Provincial Road No. 313.

It was staked as Gray M.C. (38284) by J.H. Lee Willson and assigned to Geo. H. Page in 1929. From 1925 to 1933, a total of 61 m^3 (2142 cu ft) was taken from 13 trenches, pits, rock cuts or by means of stripping.

The following restakings are subsequently recorded for this claim:

Year	Claim Name	Claim Number	Staker
1940	New Gray	W9850	Harry C. Hughes (per J.J. Papineau)
1942	Bernic No. 18	W10626	H.B. Montgomery
1948	WLW No. 2 Fr.	W16362	Kay M. Wengel
1953	TNT No. 3, 4	W19805, 6	P. Chorney
1954	Bob No. 5	W20764	K.M. Wengel
1960	Bob No. 10 Fr.	W32670	James Albert Smith

Associated minerals or products of value
beryllium

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

Bob No. 5 was assigned to The Lithium Corporation of Canada, Limited in 1955. Dalhart Minerals Corporation Limited apparently explored the area for beryllium in 1956-1957 (Non-confidential Assessment File No. 92715). In 1959, Canadian Nickel Company Limited did an airborne EM survey in the area under Airborne Permit No. 26, using the INCO dual frequency (IP/OP) system (Non-confidential Assessment File No. 90008).

From 1960 until the present, the two Bob claims have similar histories. Bob No. 5 and 10 Fr. were surveyed as Lot 258 and 257, Plan 13128, 13127, and Group 74, respectively, in 1960. In 1961, both claims were leased for 21 years (M-7727 and M-7731, respectively).

In 1971, a helicopter EM and radiometric survey was done over the area by Hudson Bay Exploration and Development Company Limited under Airborne Permit No. 93; the survey identified some anomalies in the area (Non-confidential Assessment File No. 91686). The 21-year leases were cancelled on November 22, 1976.

In 1976-1977, Tantalum Mining Corporation of Canada Limited (Tanco) explored the area for tantalum (Non-confidential Assessment File No. 92715).

In December 8, 1980, Wimp 1 (CB 12118) (See: 52L/6 BE 3, LI 1, LI 4) covering 183 ha was staked over the area by H.S. Nilsson (assisted by H. Larsen and S. Smith) for Tanco, which is owned by Hudson Bay Mining and Smelting Co., Limited (37.5%), Kawecki Berylco Industries (37.5%) and the Manitoba Government. The next year, Tanco completed a reconnaissance lithogeochemical survey over the Wimp claim group, and outlined a number of lithia anomalies (Non-confidential Assessment File No. 92715). On March 9, 1984, the claim was cancelled, and the area was reopened for staking.

A chemical analysis of a columbite-tantalite sample (Sample No. SF-22) from the area was reported (in wt %) as: 37.9% Ta_2O_5, 40.8% Nb_2O_5, 0.2% TiO_2, 4.6% SnO_2, 15.4% MnO, 1.5% FeO (Cerny et al., 1986, p. 505).

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#Claim Map Series SW 6, 52L, Scale 1:31 680, circa 1933, Mining Recording, Manitoba Mines Branch.

REMARKS

The pegmatite is found 403 m northwest of the Silver Leaf deposit (Bannatyne, 1985, p. 23). (See: 52L/6 LI 1).

Comp./Rev.		CC	PA
By Date	3-68	10-73	04-88

PRODUCT Lithium **N.T.S. AREA** 52L/6SW **REF.** LI 2

NAME OF PROPERTY:
Captain

OWNER OR OPERATOR AND ADDRESS
1988 - Open

OBJECT LOCATED: Centre of claim **MINING DIVISION** Winnipeg

Lat. 50° 20.2'	Long. 95° 18.0'	**UNCERTAINTY:** 500 m
Sec. 11	Tp. 16	R. 16 EPM

DESCRIPTION OF DEPOSIT

The lithium-bearing dyke intrudes Archean quartz diorite and oligoclase grandodiorite of the Great Falls pluton. Stockwell states that the dyke strikes 020°, dips 35° SE, and is exposed for 61 m (200 feet) along the strike. At its southwest end, it is 7 m (24 feet) wide; and at its northeast end, it is 0.9 m (3 feet) wide. Scattered flakes of lepidolite occur in small amounts in the middle of the southwest portion of the dyke. A small amount of beryl is also present. One milky-white beryl crystal, 20 cm (8 inches) in basal section, (Stockwell, 1932, p. 127), and pale green albite (Bannatyne, 1985) has been reported. The dyke is of no economic value.

HISTORY OF EXPLORATION AND DEVELOPMENT

The deposit is located 0.8 km south of Winnipeg River, about 16 km east and 4.8 km north of Point du Bois and Provincial Road No. 313.

The deposit was first staked as Captain (39372) in 1925 by J. McGuire. The claim was assigned to Geo. H. Page in that year. Warner Lake Mines Limited was assigned the property in 1928. Captain M.C. was surveyed in 1937 and the next year assigned to Winnipeg River Tin Mines Limited.

The deposit was restaked as Captain Nos. 3, 5 (W12431, 3) by Emil Kiziak and Grace No. 9 (W12425) by Salter Billon in 1944, and the next year assigned to Winnipeg River Tin Mines.

It was restaked as Loon Nos. 14, 15, 16 (W20399, 400, 401) by M.G. Smerchanski in 1954 and Dal No. 2 (W28892) by R. Sellers in 1957.

Associated minerals or products of value
beryllium

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

The Loon claims were assigned to William Cobb in 1954 and the next year to Phil Smerchanski. A geological survey on a scale of 1:2400 with survey lines at 61 m (200 foot) intervals was completed on the Loon claims in 1955 by M. Smerchanski (Non-confidential Assessment File No. 91302). In 1957, the claims were assigned to Dalhart Minerals Corporation Limited which later that year became Dalhart Beryllium Mines & Metals Corporation Limited. Geological mapping (Scale 1:2400) of the Loon 16 claim area was done in 1958 by Central Geophysics Ltd. (Non-confidential Assessment File No. 92363).

In 1959, Canadian Nickel Company Limited did an airborne EM survey in the area under Airborne Permit No. 26, using the INCO dual frequency (IP/OP) system (Non-confidential Assessment File No. 90008).

The Loon claims were transferred to Canhart Mines Limited in 1960. Canhart Mines Limited formed by Canol Metal Mines Limited, had apparently acquired Dalhart Beryllium Mines & Metals Corporation Limited. In 1966, the deposit was restaked as part of Soon Nos. 15, 16, 17 (W39976, 7, 8) by Thomas Clarke and assigned to Spacemaster Minerals Ltd. (formerly Winnipeg River Tin Mines Limited). The claims were cancelled in January 1971.

The Dal No. 2 claim has a similar history, being assigned to Dalhart Beryllium Mines & Metals Corporation in 1958 and Canhart Mines in 1961. The claim was cancelled in January 1970.

In 1971, a helicopter EM and radiometric survey was flown by Hudson Bay Exploration and Development Company Limited under Airborne Permit No. 93 (Non-confidential Assessment File No. 91686).

In 1980, the former Soon 15 claim fell under the 195-ha Wimp 6 (CB 12761) claim area which was staked by H. Larsen (assisted by H. Nilsson and S. Smith) for Tantalum Mining Corporation of Canada Limited, which is owned by Hudson Bay Mining and Smelting Co., Limited (37.5%), Kawecki Berylco Industries (37.5%) and the Manitoba Government. Reconnaissance lithogeochemical surveys were completed over the Wimp Claim group in the following year. 1981 and 1986 sample-work failed to outline any significant lithia anomalies (Non-confidential Assessment File No. 92715). The Wimp 6 claim was cancelled on February 6, 1987.

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Preliminary Map 1978 F-2, Pointe du Bois (West part), (Geology), Scale 1:250 000, by D.A. Janes, Manitoba Mines Branch.

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#Claim Map Series SW 6, 52L, Scale 1:31 680, circa 1938, Mining Recording, Manitoba Mines Branch.

Comp./Rev.		CC	PA
By Date	03-68	10-73	05-88

MANITOBA ENERGY AND MINES **MINERAL INVENTORY FILE NO.** 193

PRODUCT Lithium **N.T.S. AREA** 52L/6 SW **REF.** LI 4

NAME OF PROPERTY:
Annie

OWNER OR OPERATOR AND ADDRESS
1988 - Open

OBJECT LOCATED: Centre of claim **MINING DIVISION** Winnipeg

Lat. 50° 21.3'	Long. 95° 21.0'	UNCERTAINTY: 500 m
Sec. 16, 17, 20, 21	Tp. 16	R. 16 EPM

DESCRIPTION OF DEPOSIT

The deposit is a pegmatite dyke "showing small concentrations of beryl, cassiterite and lepidolite" (DeLury, 1926). The dyke intrudes Archean metavolcanics (basalt, andesite, tuff, iron formation) and metasediments (quartzose sediments) of the Rice Lake Group in the southern part of the claim and granite in the north. "(The dyke) occurs chiefly over an area measuring 50 feet (15 m) across, and can be observed east of this point at distances of 60 and 300 feet (18 and 91 m)."

It consists mainly of cleavelandite, microcline, smoky and white glassy quartz, with minor white beryl crystals, pale yellow mica (Bannatyne, 1985), rare tourmaline and apatite (Cerny et al., 1986); "Tin values are said to be in ... brown and black lepidolite" (McCartney, 1930 in Bannatyne, 1985). "The lithium-bearing pegmatite contains scattered flakes of lilac lithia mica, lilac curvilamellar lithia mica, and grey curvilamellar lithia mica. A small amount of beryl occurs in crystals up to 1 inch (2.54 cm) across. The grey, curvilamellar, lithia mica contains only 0.90 per cent lithia. The deposit is of no economic value." (Stockwell, 1932).

"Cerny et al.(1981) report three pegmatite pods on the Annie claim, all of which have rare columbite-tantalite, and which are, in part, highly enriched in Li, Rb, Cs, Be and B." (Bannatyne, 1985, p. 23). Other minerals include manganotantalite and wodginite in the irregular Annie claim No. 2 pod, fluorine in the Annie claim No. 3 pod; minor microlite and garnet in the AC1 and AC3 pegmatites (Cerny et al., 1986). See Table 2.

Associated minerals or products of value
tin, beryllium, (columbium-tantalum, rubidium, cesium, boron, fluorine).

HISTORY OF EXPLORATION AND DEVELOPMENT

The deposit is located 14.5 km east and 5.6 km north of Pointe du Bois and Provincial Road No. 313, south of the Winnipeg River.

This claim was staked only once as Annie M.C. (33198) in 1924 by Kay Wengel. The pegmatite was worked for cassiterite around 1930. "According to McCartney (1930), "Considerable cassiterite is reported to have been removed from the first (largest) pit. A very few crystals are still in evidence. Apparently it was a local segregation of cassiterite ... Further west there are a few more small pits ... Tin values are said to be in ... brown and black lepidolite ... A few milky white beryl crystals are noted in the showing; a few very large crystals are reported to have been removed."" (in Bannatyne, 1985, p. 22). Chemical analyses of two types of 'curved' muscovite from the property are shown in Table 1.

Table 1: Chemical analysis of 'Curved' muscovite from the Annie claim (source: Ellsworth, 1932, p. 266-267)

	Muscovite Type	
	Lilac	Grey
SiO_2	46.56	45.36
Al_2O_3	29.53	33.21
Fe_2O_3	0.12	2.2
FeO	0.10	2.57
CaO	0.15	0.13
MgO	0.29	0.13
MnO	2.32	0.90
Rb_2O	trace	-
Cs_2O	0.33	-
Li_2O	1.8	0.90
Na_2O	2.65	1.14
K_2O	11.01	11.14
F_2 wt%	3.45	1.41
Total*	99.98	100.16

(Analyst: R.J.C. Fabry)

*less O for F.

In 1938, the claim was surveyed and assigned to Winnipeg River Tin Mines Limited. It was leased in 1948 (M-2016). An unknown amount of work was performed on the claim from the time it was staked until it was leased.

In 1956, it was assigned to Dalhart Minerals Corporation Limited (later: Dalhart Beryllium Mines & Metals Corporation Limited) which did an extensive beryllium exploration program in 1956-1957 consisting of trenching, mapping, diamond-drilling and bulk-sampling on several claims in the Greer Lake area (Non-confidential Assessment File No. 92715). In the summer of 1958, Dalhart Beryllium Mines & Metals Corporation Limited mapped the area at a scale of 1:2400 (Non-confidential Assessment File No. 92363).

In 1959, Canadian Nickel Company Limited did an airborne EM survey using the INCO dual frequency IP/OP system, under Airborne Permit No. 26 (Non-confidential Assessment File No. 90008).

HISTORY OF EXPLORATION AND DEVELOPMENT (continued)

Annie was assigned to Canhart Mines Limited in 1960 through an agreement with Canol Metal Mines Limited. Canhart Mines Limited (Inc. May 1960), formed by Canol Metal Mines Limited (Inc. September 1958), had apparently acquired Dalhart Beryllium Mines & Metals Corporation Limited. Tanlith Mines Limited acquired the claim in 1969. Tanlith Mines Limited had been formed through a 60/40 arrangement between Northern Goldfields Exploration Limited (Canadian subsidiary of The Goldfield Corporation of New York) and Canhart Mines Limited (Northern Miner, January 18, 1968). The 21-year lease was renewed in 1969.

In 1971, Hudson Bay Exploration and Development Company Limited did a helicopter EM and radiometric survey over the area under Airborne Permit No. 93, and some anomalies were identified in the area (Non-confidential Assessment File No. 91686). In 1976-1977, a tantalum exploration program consisting of mapping, prospecting, trenching, blasting, and limited diamond-drilling was done over a wide area by Tantalum Mining Corporation of Canada Limited (Tanco), also 60% controlled by Northern Goldfields (Non-confidential Assessment File Nos. 92362, 92715). The lease was cancelled by Tanlith Mines Limited in October 1980.

On December 1, 1980, Wimp 1 (CB 12118) (See: 52L/6 BE 3, LI 1, LI 3) covering 183 ha was staked over the area by H.S. Nilsson (assisted by H. Larsen and S. Smith) for Tanco, which is owned by Hudson Bay Mining and Smelting Co., Limited (37.5%), Kawecki Berylco Industries (37.5%) and the Manitoba Government. In 1981, Tanco completed a reconnaissance lithogeochemical survey over the Wimp claim group and outlined a number of lithia anomalies (Non-confidential Assessment File No. 92715). Wimp 1 (CB 12118) was cancelled on March 9, 1984.

Chemical analyses of columbite-tantalite, wodginite and microlite samples, reported by Cerny et al. (1986) are shown in Table 2.

Table 2: Chemical analyses mineral samples from the Annie claim
(Source: Cerny et al., 1986).

	Columbite-tantalite			Wodginite		Microlite
	AC1	AC2	AC3	AC2	AC2	AC1
Ta_2O_5	57.2	67.6	77.5	70.9	64.6	78.6
Nb_2O_5	23.9	15.9	7.8	1.2	6.6	0.3
TiO_2	0.9	0.2	0.1	-	0.2	0.4
SnO_2	0.5	0.1	0.4	14.4	15.8	
Sb_2O_3	0.1	-	-			0.1
MnO	4.7	13.1	14.2	11.2	10.7	0.05
FeO	11.2	1.9	0.2	-	-	0.2
Fe_2O_3				0.2	1.1	
CaO	0.04	0.04	-	0.2	0.2	9.5
Na_2O						2.1
SnO						1.2
Total	98.54	98.94*	100.2	97.9	99.2	92.45

* includes 0.1 wt% MgO

REFERENCES

Bannatyne, B.B., 1985, Industrial minerals in rare-element pegmatites of Manitoba; Manitoba Energy and Mines, Geological Services, Economic Geology Report ER84-1, p. 22-23.

Cerny, P., Trueman, D.L., Ziehlke, D.V., Goad, B.E. and Paul, B.J., 1981, The Cat Lake-Winnipeg River and the Wekusko Lake pegmatite fields, Manitoba; Manitoba Department of Energy and Mines, Economic Geology Report ER80-1, p. 62, 63, 102, 149-150.

Cerny, P., Goad, B.E., Hawthorne, F.C. and Chapman, R., 1986, Fractionation trends of the Nb- and Ta- bearing oxide minerals in the Greer Lake pegmatitic granite and its pegmatite aureole, southeastern Manitoba; American Mineralogist, v. 71, Nos. 3 and 4, p. 501-517.

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Manitoba Mines Branch:
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b Unpublished Information Files; 52L/5, 6.

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Map 2059, Oiseau River area, (Geology), Scale 1:63 360 - Accompanying Report by Wright (1926), Geological Survey of Canada.

Map 274 A, Oiseau Sheet, (Geology), Scale 1:63 360 - Accompanying Marginal Notes by Wright and Stockwell (1932), Geological Survey of Canada.

Map 49-7, Cat Lake-Winnipeg River area, (Geology), Scale 1:63 360 - Accompanying Report by Springer (1950), Manitoba Mines Branch.

Map 56-1b, Ryerson Lake-Winnipeg River area, (Geology), Scale 1:12 000 - Accompanying Report by Davies (1957), Manitoba Mines Branch.

Preliminary Map 1972 F-1, Geological compilation map of the Bird River area, (Geology), Scale 1:50 000, by D.L. Trueman, Manitoba Mines Branch.

Preliminary Map 1975 F-9, Bird River E., (Geology), Scale 1:31 680, by D.L. Trueman, Manitoba Mines Branch

Map ER80-1-3, Winnipeg River pegmatite district (Structural Geology), Scale 1:50 000 - Accompanying Report by Cerny et al.(1981), Manitoba Mineral Resources Division.

Map ER80-1-1, Cat Lake-Winnipeg River pegmatite field (Geology), Scale 1:100 000 - Accompanying Report by Cerny et al.(1981), Manitoba Mineral Resources Division.

Map (unpublished), Annie, 33198, Lot 177, Group 74, Plan 3688, (Surveyed, 1938), Scale 1:2400, Mining Recording, Manitoba Mines Branch.

#Claim Map Series SW 6, 52L, Scale 1:31 680, circa 1973, Mining Recording, Manitoba Mines Branch.

REMARKS

1. The claim is located 381 m (1250 ft) NNW of the Huron (see: 52L/6 BE 3), 610 m (2000 ft) NE of the Silverleaf deposit (see: 52L/6 LI 1).

2. The pegmatite pods are not as fractionated as the Bernic Lake pegmatite group but they show the same low-P assemblage (Goad and Cerny, 1981).

Comp./Rev.		CC	PA
By Date	3-68	10-73	04-88

MANITOBA ENERGY AND MINES **MINERAL INVENTORY FILE NO.** 194

PRODUCT Lithium **N.T.S. AREA** 52L/6 SW **REF.** LI 5

NAME OF PROPERTY:
North

OWNER OR OPERATOR AND ADDRESS
1988 - Open

OBJECT LOCATED: centre of North No.17 **MINING DIVISION** Winnipeg

Lat. 50° 20.2' Long. 95° 16.2' **UNCERTAINTY:** 500 m

Sec. 12, 13 Tp. 16 R. 16 EPM

DESCRIPTION OF DEPOSIT

The North group of claims are situated in Archean metavolcanics (andesite, basalt, iron formation) of the Rice Lake Group to the north and Precambrian grey oligoclase granite and granodiorite of the Great Falls pluton to the south. This is the section where North Nos. 15, 17 are located. The lithium deposits are located in pegmatites which intrude these rocks. The lithium occurs in the form of spodumene. Tin and beryllium are also associated with the lithium in the albite pegmatite.

HISTORY OF EXPLORATION AND DEVELOPMENT

The deposit is located south of the Winnipeg River, 14.5 km south of Provincial Road No. 315.

The property was staked in 1954 as North Nos. 15, 17 (W20864, 6) by J. Dalisle and assigned to Don Moore. A geological survey was made of the North group of claims at a scale of 1:4800 by M. Smerchanski in 1955 (Non-confidential Assessment File No. 91096). The claims were cancelled in 1957.

In 1959, Canadian Nickel Company Limited did an airborne EM survey in the area under Airborne Permit No. 26, using the Inco dual frequency (IP/OP) system (Non-confidential Assessment File No. 90008). In 1971, a helicopter EM and radiometric survey was flown by Hudson Bay Exploration and Development Company Limited under Airborne Permit No. 93 (Non-confidential Assessment File No. 91686).

REFERENCES

Cerny, P., Trueman, D.L., Ziehlke, D.V., Goad, B.E., and Paul, B.J., 1981: The Cat Lake-Winnipeg River and the Wekusko Lake pegmatite fields, Manitoba; Manitoba Department of Energy and Mines, Mineral Resources Division; Economic Geology Report ER80-1, 216 p.

Manitoba Mines Branch: Non-confidential Assessment Files; File Nos. 90008, 91096, 91686.

Associated minerals or products of value:
beryllium, tin

REFERENCES cont'd

Wright, J.F., 1926: Geology and mineral deposits of Oiseau River map-area, Manitoba; Geological Survey of Canada, Summary Report 1924, Part B, p. 51-104.

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Map 2059, Oiseau River area, (Geology), Scale 1:63 360 - Accompanying Report by Wright (1926), Geological Survey of Canada.

Map 274 A, Oiseau Sheet, (Geology), Scale 1:63 360 - Accompanying Marginal Notes by Wright and Stockwell (1932), Geological Survey of Canada.

Map 49-7, Cat Lake-Winnipeg River area, (Geology), Scale 1:63 360 - Accompanying Report by Springer (1950), Manitoba Mines Branch.

Map, North Group, (Geology), Scale 1:4 800, by M. Smerchanski, in Non-confidential Assessment File No. 91096, Manitoba Mines Branch (1955).

Preliminary Map 1972 F-1, Geological compilation map of the Bird River area, (Geology), Scale 1:50 000, by D.L. Trueman, Manitoba Mines Branch.

Preliminary Map 1976 F-7, Ryerson Lake (Geology), Scale 1:50 000, by D.A. Janes, Manitoba Mines Branch.

Preliminary Map, 1978 F-2, Pointe du Bois (West part) (Geology), Scale 1:250 000, by D.A. Janes, Manitoba Mines Branch.

Map ER80-1-1, Cat Lake-Winnipeg River pegmatite field, (Geology), Scale 1:100 000 - Accompanying Report by Cerny et al (1981), Manitoba Mineral Resources Division.

Map ER80-1-3, Winnipeg River pegmatite district, (Structural Geology), Scale 1:50 000 - Accompanying Report by Cerny et al (1981), Manitoba Mineral Resources Division.

#Claim Map Series SW 6, 52 L, Scale 1:31 680, circa 1957, Mining Recording, Manitoba Mines Branch.

REMARKS

In a map in the assessment files, pegmatite dykes are shown on North 18, 16, 14, 12, 11, 8 and 6.

Comp./Rev.	CC	PA
By Date	10-73	05-88

PRODUCT Lithium **N.T.S. AREA** 52L/6 SW **REF.** LI 6

NAME OF PROPERTY:
Pine No. 1

OWNER OR OPERATOR AND ADDRESS
1988 - Open

OBJECT LOCATED: Drill hole **MINING DIVISION** Winnipeg

Lat. 50° 22.2' Long. 95° 21.7' **UNCERTAINTY:** 100 m

Sec. 29 Tp. 16 R. 16 EPM

DESCRIPTION OF DEPOSIT

The deposit is in pegmatite dykes made up of quartz, pink feldspar, lithium mica, mica, beryl, tourmaline and red garnet. "The pegmatite is one of the few known in this area to be intruded into metasedimentary garnet-mica schist" (Bannatyne, 1985). There are a series of dykes ranging from 0 to 21 m (0 to 70 ft) in the drill hole dipping 45° with "depths" of 0.9 to 3 m (3 to 11 ft). These dykes intrude Archean metavolcanics of the Rice Lake Group (andesite, basalt and metamorphosed equivalents). "... a pegmatite outcrops for a length of 60 feet (18 m) along the shore. A 12-foot (4-m) width is exposed in one place .... this (dyke) shows rose-tinted and opalescent quartz and green and colourless beryl crystals. Some of the beryl is fairly transparent and in pleasing tints and has been used in a small way for gem material." (Wright, 1932). "An analysis of mica from the contact zone of this dyke is reported by Cerny et al.(1981) to contain 1.89% Li_2O and 0.66% Cs_2O. " (Bannatyne, 1985).

HISTORY OF EXPLORATION AND DEVELOPMENT

The deposit is located on the south bank of the Winnipeg River, 13.7 km east and 8 km north of Pointe du Bois and Provincial Road No. 313. It is also 10.5 km south of Provincial Road No. 315.

It was first staked as Beryl No. 3 (15591) by F.B. Evans in 1929 and assigned first to Theodore Kipp and then Manitoba Gem Mines Limited in 1930. It was restaked as Navajo M.C. (W9602) in 1939 by R.W. Hiebert and restaked again in 1948 as C.G. No. 11, 12 (W16407, 8) by H.V. Jerome.

The deposit was restaked by Barry Bannatyne in 1956 as Pine No. 1 (W27171) and assigned to The Lithium Corporation of Canada, Limited. The same year a diamond drill hole (inclined at 45°S, collared at 0.6 m from the north contact of the pegmatite) was drilled to a depth of 21 m (70 ft) on Pine No. 1 (Non-confidential Assessment File No. 91298). The Lithium Corporation of Canada, Limited was financed by Mogul Mining Corporation Limited (later, Consolidated Mogul Mines Limited in 1958).

Associated minerals or products of value
beryl, tourmaline, rose quartz

HISTORY OF EXPLORATION AND DEVELOPMENT

In 1959, Canadian Nickel Company Limited did an airborne EM survey in the area under Airborne Permit No. 26, using the INCO dual frequency (IP/OP) system (Non-confidential Assessment File No. 90008).

The property was restaked as Peter No. 7 (W35705) by R. Sellers in 1962 and assigned to Michael Samwald. It was again restaked as part of CB 5055 by Glen Hogarth in 1971. A helicopter EM and radiometric survey was done by Hudson Bay Exploration and Development Company Limited (H.B.E.D.) under Airborne Permit No. 93 in 1971; some anomalies were identified in the area (Non-confidential Assessment File No. 91686).

The claim was assigned to H.B.E.D. in 1972. That year, a 9.6 km (5.94 mi)-long horizontal-loop electromagnetic (EM-17) survey was done in the area (Non-confidential Assessment File No. 92360). The claim was cancelled December 30, 1974.

REFERENCES

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Manitoba Mines Branch:
a Non-confidential Assessment Files; File Nos. 90008, 91686, 91298, 92360.

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MAP REFERENCES

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Map 274 A, Oiseau Sheet, (Geology), Scale 1:63 360, Accompanying Marginal Notes by Wright and Stockwell (1932), Geological Survey of Canada.

Map 49-7, Cat Lake-Winnipeg River area, (Geology), Scale 1:63 360, Accompanying Report by Springer (1950), Manitoba Mines Branch.

Map 56-1a, Shatford Lake-Winnipeg River area, (Geology), Scale 1:12 000, Accompanying Report by Davies (1957), Manitoba Mines Branch.

Preliminary Map 1972 F-1, Geological compilation map of the Bird River area, (Geology), Scale 1:50 000, by D.L. Trueman, Manitoba Mines Branch.

Preliminary Map 1975 F-9, Bird River E., (Geology), Scale 1:31 680, by D.L. Trueman, Manitoba Mines Branch.

Map ER80-1-3, Winnipeg River pegmatite district, (Structural Geology), Scale 1:50 000 - Accompanying Report by Cerny et al. (1981), Manitoba Mineral Resources Division.

Map ER80-1-1, Cat Lake-Winnipeg River pegmatite field, (Geology), Scale 1:100 000 - Accompanying Report by Cerny et al. (1981), Manitoba Mineral Resources Division.

#Map (unpublished), Pine No.1 (d.d.h. location), Scale 1:4 800, Non-confidential Assessment File No. 91298, Manitoba Mines Branch.

Claim Map Series SW 6, 52 L, Scale 1:31 680, circa 1956, Mining Recording, Manitoba Mines Branch.

Comp./Rev.	CC	CFL	PA
By Date	10-73	01-79	05-88

MANITOBA ENERGY AND MINES **MINERAL INVENTORY FILE NO.** 209

PRODUCT Tin	**N.T.S. AREA** 52L/6 NW	**REF.** SN 2

NAME OF PROPERTY:
Jack Nutt Cassiterite
(Akmen M.C.)

OWNER OR OPERATOR AND ADDRESS
1988 - Tantalum Mining
Corporation of Canada
Limited
Bernic Lake, Manitoba
ROE OGO
37.5% interest - Hudson Bay Mining and Smelting
Co., Limited
37.5% interest - Kawecki Berylco Industries
25% interest - Province of Manitoba

OBJECT LOCATED: Shaft

MINING DIVISION Winnipeg

Lat. 50° 25.71'	Long. 95° 27.15'	**UNCERTAINTY:** 50 m
Sec. 15	Tp. 17	R. 15 EPM

DESCRIPTION OF DEPOSIT

The deposit lies within the Archean Bird River greenstone belt which is comprised of metavolcanic, related and derived metasedimentary rocks of the Rice Lake Group. The areas north, east and southwest of the belt are occupied, respectively, by the Maskwa Lake, Marijane Lake and Lac du Bonnet batholiths (Crouse et al., 1979).

The deposit occurs as one of five shallow flat-lying cassiterite-bearing pegmatites which has intruded amphibolites (meta-andesites). The pegmatites may be related to a deeper pegmatitic body, the Tanco pegmatite (see: 52L/6 LI 8, CS 1 and TA 1). "The pegmatites are composed essentially of white to buff albite, quartz and pale yellow mica. The usual maximum width of the pegmatites is 10 to 12 feet (3.1 to 3.7 m); some of the dykes are only a foot (0.3 m) or so wide. Cassiterite occurs in the narrow finer-grained dykes and in places along the fine-grained margins of the wide pegmatites. Tourmaline is abundant in several of the dykes and in places occurs as large, black crystals growing normal to the walls. Triphylite was observed in a few places" (Davies, 1955).

Cernyite, Cu_2CdSnS_4, has been reported from the Tanco pegmatite (Foord, 1982). Cassiterite has been reported in another pegmatite body (370 m x 900 m, and up to 47 m thick), the lower Tanco pegmatite, which occurs below the main Tanco pegmatite (see 52 L/6 TA 1).

Associated minerals or products of value
beryllium, lithium, cesium, tantalum, gallium, rubidium, quartz, feldspar, niobium, apatite.

HISTORY OF EXPLORATION AND DEVELOPMENT

The deposit is situated on the northeastern shore of the west end of Bernic Lake. The deposit is accessible by road from the west, a branch off of Provincial Road No. 315.

Akmen M.C. (9844) was staked over the deposit by Charles Lebert in 1928 and assigned in the same year to James C. Ellis, then to Miles Flynn, and then to Jack Nutt Mines Limited. In 1929 four assays from samples taken in the vicinity of Akmen M.C. returned 1.36, 2.55, 4.46 and 6.93% tin. A radiore survey was also made on Akmen M.C., Bernic No. 1 (10 035) and Bernic No. 2 (10 062).

During April, 1929, shaft sinking commenced and continued until November when the workings were flooded. A two compartment shaft had been sunk to 41 m (134 ft) and 27 m (89 ft) of drifting had been completed on the 38-m (125-ft) level. Water came in through a crevice in the crosscut, which was later plugged with cement and bulk-headed in. After a diamond drilling program, shaft sinking began again in December, 1929.

D.D.H. No.	Orientation	Total length	Location
1	70°	58 m (190 ft)	
2	40°	88 m (290 ft)	
3	50°/N30°E	151 m (496 ft)	122 m (400 ft) SE of shaft
4	70°/S20°E	169 m (555 ft)	61 m (200 ft) E of shaft

D.D.H. No. 3 and D.D.H. No. 4 intersected a "probable ore body". See figures 1, 2, and 3. In addition to tin in the pegmatite, appreciable amounts of spodumene and some beryl were also noted. A trial shipment of 454 kg (1000 lbs) of beryl was made to New York and assayed 4% beryllium. A 45.4 kg (100 lb) sample gave 13% BeO. A 9-tonne (10-ton) pilot mill was built and the results of three lots of ore are as follows:

Quantity	Head Sample	Total Recovery	Assay
9.5 tonnes (10.5 tons)	2% tin	37 kg (74 lbs) concentrate/tonne (ton)	70.2% tin
11 tonnes (12 tons)	1.62% tin	40 kg (80 lbs) concentrate/tonne (ton)	67.8% tin
12 tonnes (13 tons)	1.5% tin	46 kg (92 lbs) concentrate/tonne (ton)	65% tin

During January, 1930, the shaft had reached a depth of 50 m (165 ft) when a heavy inflow of water into the shaft was encountered. The power equipment on the property was found insufficient to cope with the inflow and at the same time continue shaft sinking and it was therefore decided to suspend operations until a larger plant could be moved out and installed. Later, in May, 1930 Jack Nutt Mines Limited changed its name to Consolidated Tin Corporation Limited.

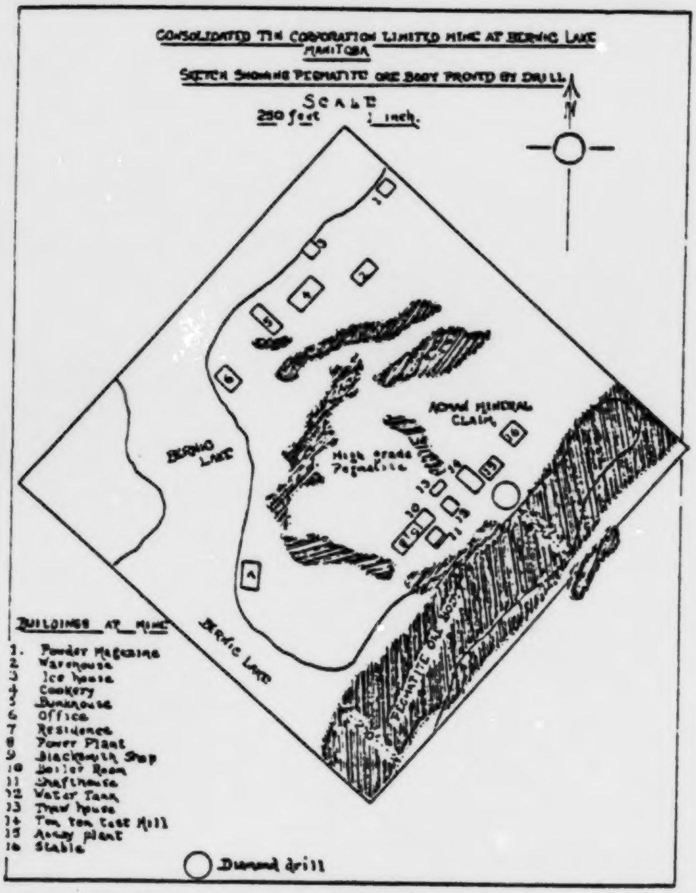

Figure 1 Plan showing Developed Ore Deposits and Plan of Buildings, at Bernic Lake, Ackman Claim

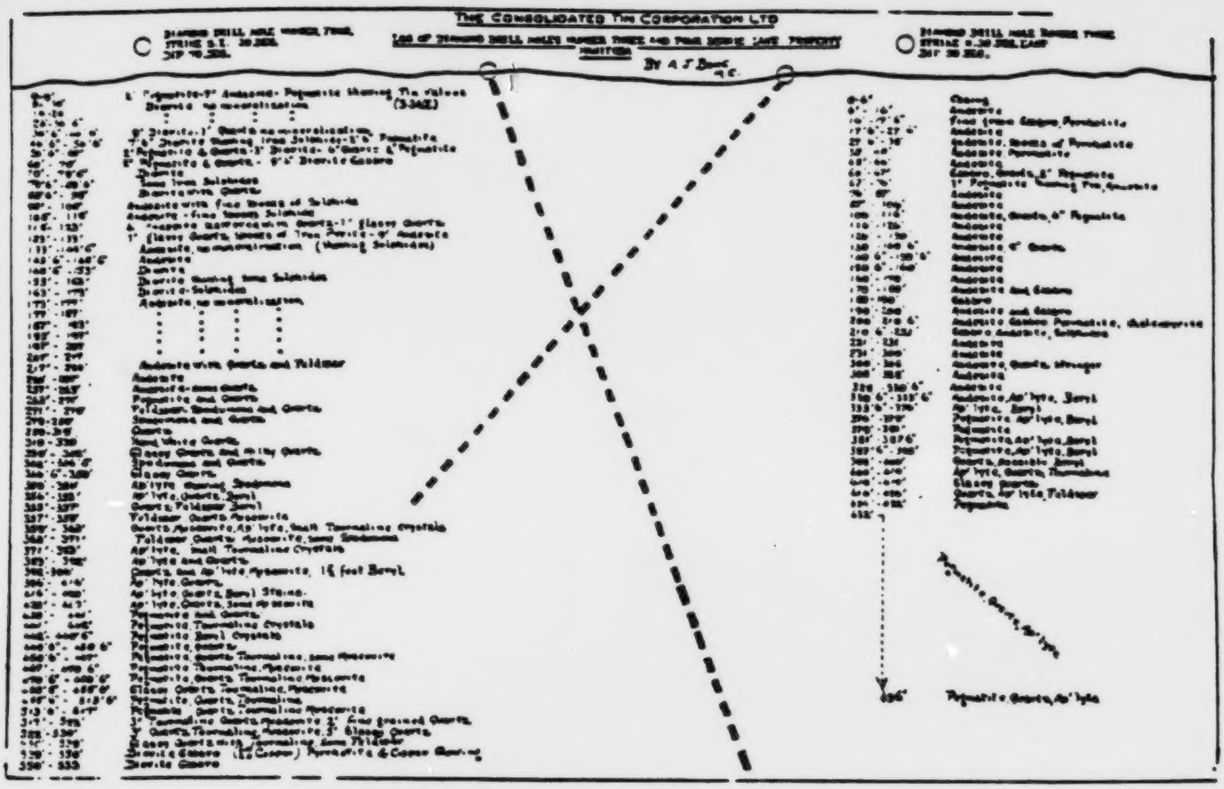

Figure 2 Diamond Drill Log of Holes 3 and 4, Ackman Claim, Bernic Lake

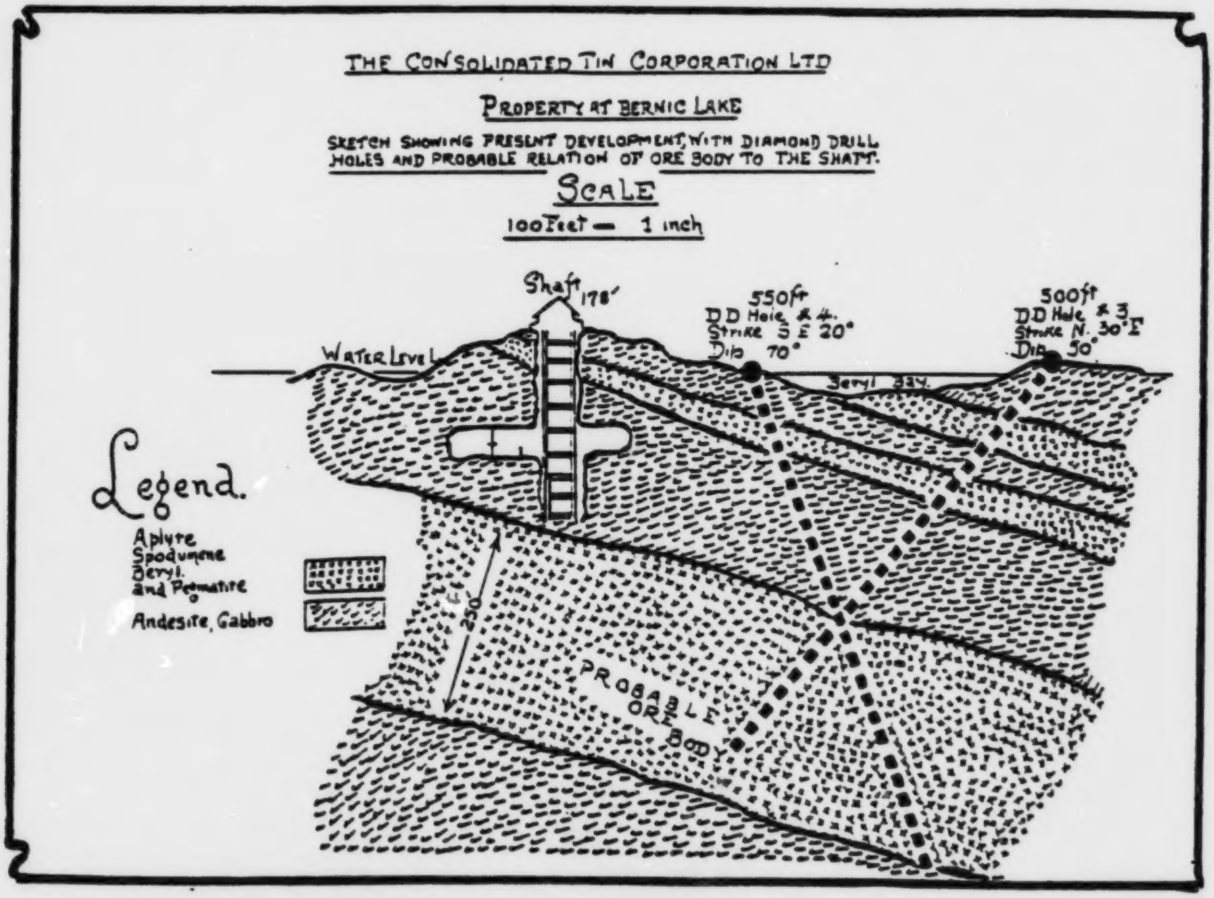

Figure 3 Sketch plan showing present development in relation to ore body

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HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

In a "Company Report" Consolidated Tin Corporation Limited reported that concentrates from mill tests gave values of 71.66% tin and 3.40% oxides of tantalum and columbium. A quartz sample returned 98.6% silica.

On this basis the company proposed the following: "to mine in its entirety a pegmatite sill containing from 75% to 80% siliceous rock material and 20% to 25% pegmatite minerals consisting of Cassiterite, Beryl, Lithia, Quartz, Feldspar, Mica, Tantalite and Columbite. After mining, the proposal is to pick out on picking belts the valuable minerals to be sold as ore of the metals they contain; as for instance the Cassiterite for Tin, the Beryl for Beryllium, the Lithia Minerals for Lithium, and the Feldspar and Quartz to be shipped and sold for use in the ceramic and glass making industries. The balance of the rock, which would be between 70% and 80% of the whole, is to be re-crushed and sized for sale as crushed rock for use as concrete and road material". In spite of these plans, three years after the property was assigned to Nicholas Addews, the claim was cancelled.

In 1934, the property was restaked as Carman M.C. (W3814) by Geo. W. Holloway and then assigned to Charles MacPherson. In 1937, the property was again restaked by Ed Erlich as Comet No. 1 (W7895) and then assigned to James Wrathall. The Lithium Corporation of Canada, Limited purchased the former mine buildings from the property in 1940. In the same year, Mobirk Beryllium Mining Ltd. NPL requested an abstract of title and a month later the claim was assigned to Thomas M. Mungovan, solicitor for Mobirk. In 1946 the claim was cancelled and two years later restaked as B. No. 1 (W16357) by R.J.R. Schaller. This claim was cancelled and then restaked in 1955 as Lith No. 5 (21644) area 10.5 ha (25.9 ac), by S. Grewinski. The history from this point on is continued in Mineral Inventory Card 52/6 LI 8.

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a Corporation Files; Jack Nutt Mines Limited; Consolidated Tin Corporation Limited.

b Mineral Inventory Cards; 52L/6 LI 8, CS 1, TA 1.

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*Map 52L/6, West, Ryerson Lake (Topo), Scale 1:50 000, Mines & Technical Surveys, Canada.

NAME OF PROPERTY		**FILE NO.** 209
Jack Nutt Cassiterite (Akmen M.C.)	**N.T.S. AREA** 52L/6 NW	**REF.** SN 2

MAP REFERENCES cont'd

Map 1194 G, Ryerson Lake (Aeromag), Scale 1:63 360, Manitoba Mines Branch and Geological Survey of Canada.

Map 49-7, Cat Lake-Winnipeg River area (Geol), Scale 1:63 360 - Accompanying Report by Springer (1950), Manitoba Mines Branch.

Map 54-1, Bird Lake area (Geol), Scale 1:12 000 - Accompanying Report by Davies (1955), Manitoba Mines Branch.

Preliminary Map 1975 F-9, Bird River area East (Geol), Scale 1:31 680, by D.L. Trueman, Manitoba Mines Branch.

Map ER80-1-1, Cat Lake-Winnipeg River pegmatite field (Geol), Scale 1:100 000 - Accompanying Report by Cerny et al.(1981), Manitoba Mineral Resources Division.

Map ER80-1-3, Winnipeg River pegmatite district (structural geology), Scale 1:50 000 - Accompanying Report by Cerny et al.(1981), Manitoba Mineral Resources Division.

Claim Map Series NW 6, 52L, Scale 1:31 680, Mining Recording, Manitoba Mines Branch.

REMARKS:

1. Mineral Inventory Cards 52L/6 SN 2, LI 8, CS 1 and TA 1 form a continuous series.
2. Rose quartz was reported in 1931 (Manitoba Mines Branch, Corporation File, Jack Nutt Mines Limited).
3. Tantalite concentrates also contain 10 to 20% Sn. "Tanco has developed a pyrometallurgical-hydrometallurgical process that would be capable of recovering about 50 tonnes of tin annually" (Bannatyne, 1985, p. 49).

Comp./Rev.	JDB	JDB	PA
By Date	11-73	04-82	04-88

PRODUCT Lithium **N.T.S. AREA** 52 L/6 NW **REF.** LI 8

NAME OF PROPERTY:
Tanco Pegmatite
(Lith No.5)

OWNER OR OPERATOR AND ADDRESS
1988 -Tantalum Mining Corporation
of Canada Limited
Bernic Lake, Manitoba
ROE OGO
37.5% interest - Hudson Bay Mining and Smelting Co., Limited
37.5% interest - Kawecki Berylco Industries
25% interest - Province of Manitoba

OBJECT LOCATED: Shaft **MINING DIVISION** Winnipeg

Lat. 50° 25.71'	Long. 95° 27.15'	UNCERTAINTY: 50 m
Sec. 15	Tp. 17	R. 15 EPM

DESCRIPTION OF DEPOSIT

The Tanco pegmatite, which is host to the deposit, occurs in the Archean Bird River greenstone belt which is comprised of metavolcanic, related and derived metasedimentary rocks of the Rice Lake Group. The areas north, east and southwest of the belt are occupied, respectively, by the Maskwa Lake, Marijane Lake and Lac du Bonnet batholiths (Crouse et al., 1979).

The Tanco pegmatite was emplaced, cogenetic with the Lac du bonnet intrusion, as a bi-lobate shallow north-dipping, doubly plunging feature, into the core of a synclinorium. The core is composed of interlayered polymictic metaconglomerate, metavolcanic rocks and iron formation; synvolcanically intruded by large stocks of composite nature of gabbro, diorite, quartz-feldspar, porphyry and granodiorite (Crouse et al., 1979).

The pegmatite occupies an almost horizontal crosscutting fracture in near vertical dipping amphibolites, forming a flat, tabular body almost 1300 m long, up to 300 m wide and 20-90 m thick (Tanco, 1981); according to Cerny (1982) and Bannatyne (1985, p. 46), the pegmatite is 1440 x 820 m, and just over 100 m thick.

From a large-scale viewpoint the internal structure of the pegmatite exhibits nine zones of different mineral composition, texture and location plus a zone of contact exomorphism in the wallrock. Some of the outer zones appear to be concentric envelopes, but the inner zones occur as more or less discontinuous layers (confined to the upper central parts of the pegmatite). In detail, the structure, however, shows a complex array of mineral assemblages and thus the nine zones are an over simplification (Crouse, et al., 1979).

Associated minerals or products of value
beryllium, cesium, tantalum, tin, niobium, apatite, gallium, rubidium, quartz, feldspar.

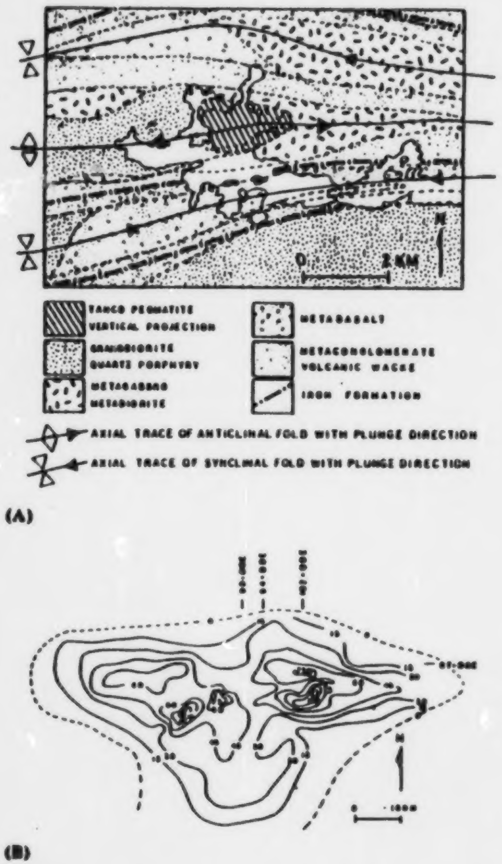
2 KM
N
TANCO PEGMATITE VERTICAL PROJECTION
GRANODIORITE QUARTZ PORPHYRY
METAGABBRO METADIORITE
METABASALT
METACONGLOMERATE VOLCANIC WACKE
IRON FORMATION
AXIAL TRACE OF ANTICLINAL FOLD WITH PLUNGE DIRECTION
AXIAL TRACE OF SYNCLINAL FOLD WITH PLUNGE DIRECTION
(A)
(B)

FIGURE 3. (A) Geologic map showing the vertical projection of the Tanco pegmatite with respect to adjacent lithologies in the mine area.
(B) Isopachous interpretation of the Tanco pegmatite based on diamond drill and Bouguer gravity data.

(Crouse et al, 1979)

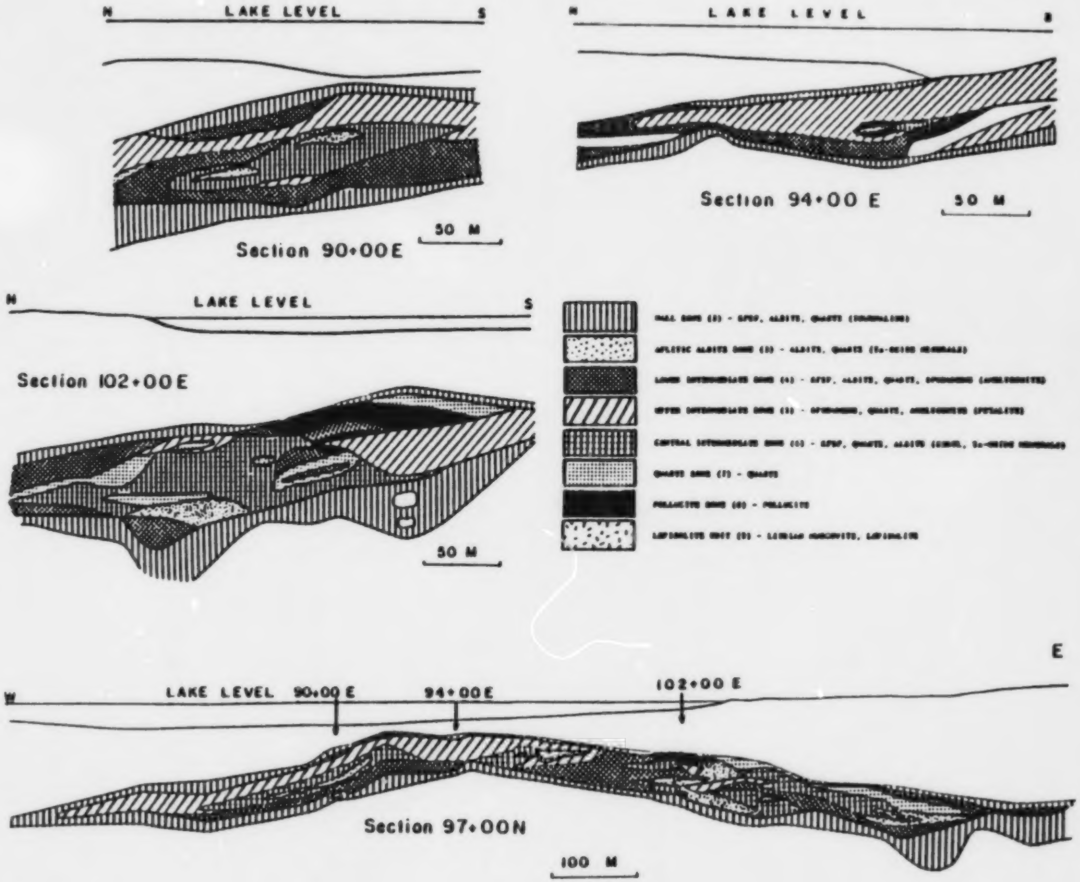
N
LAKE LEVEL
S
Section 90+00E
50 M
Section 94+00 E
50 M
Section 102+00E
50 M
WALL ZONE - KFSP, ALBITE, QUARTZ (TOURMALINE)
APLITIC ALBITE ZONE - ALBITE, QUARTZ (Ta-OXIDE MINERALS)
LOWER INTERMEDIATE ZONE - KFSP, ALBITE, QUARTZ, SPODUMENE (AMBLYGONITE)
UPPER INTERMEDIATE ZONE - SPODUMENE, QUARTZ, AMBLYGONITE (PETALITE)
CENTRAL INTERMEDIATE ZONE - KFSP, QUARTZ, ALBITE (LiMICA, Ta-OXIDE MINERALS)
QUARTZ ZONE - QUARTZ
POLLUCITE ZONE - POLLUCITE
LEPIDOLITE UNIT - LITHIAN MUSCOVITE, LEPIDOLITE
W
E
LAKE LEVEL
90+00 E
94+00E
102+00 E
Section 97+00N
100 M

FIGURE 4. Three representative north-south cross sections, and a longitudinal east-west section of the Tanco pegmatite. The country-rock amphibolite is not patterned.

(Crouse et al, 1979)

DESCRIPTION OF DEPOSIT cont'd

Lithium occurs in two zones, upper intermediate zone and lepidolite zone. The spodumene of the upper intermediate zone was first found by Jack Nutt Mines Limited (see: 52 L/6 SN 2). "The average thickness of this zone is 50 feet (15 m), locally reaching 70 feet (21 m), and generally increasing in the up-dip direction.....Quartz and spodumene are the most abundant constituents, the latter in either tabular spodumene and quartz intergrowths after petalite, or subordinately, in long lath-shaped crystals. Giant crystals of microcline-perthite, platy cleavelandite, large blocks of amblygonite-montebrasite, and tabular crystals of petalite are subordinate. Lithian muscovite, apatite, triphylite-lithiophilite, lithiophosphate, pollucite, pseudo-ixiolite, microlite and molybdenite are accessory.

The lepidolite zone forms two flat-lying east-west elongated sheets up to 60 feet (18 m) thick, as well as several smaller bodies all within the central intermediate zone. They cut this zone at a low angle. The contacts with the surrounding zone are knife-sharp to transitional over 5 feet (1.5 m)....Lithian muscovite is the main constituent, with true lepidolite having been found to be scarce....Minor amounts of albite, microcline-perthite, quartz, beryl, wodginite and cassiterite constitute the assemblage of accessory phases" (Crouse and Cerny, 1972).

Triphylite-lithiophilite "occurs as a primary component along with K-feldspar and quartz in zones (2) (4) (5) and (6)"; in zone (5) it also occurs in association with rhodocrosite, arsenopyrite, sphalerite, disordered tantalite, uranomicrolite, tantalian cassiterite and tantalian rutile (Fransolet et al., 1982). Tancoite, $HLiNa_2\ Al(PO_4)_2(OH)$ was identified in association with apatite and lithiophosphate in spodumene-rich samples from the mine dump (Ramik et al., 1980). Diomignite, natural $Li_2B_4O_7$, was recently discovered in fluid inclusions in spodumene from the Tanco pegmatite (London et al., 1987).

According to Penner and Clark (1971), the Tanco pegmatite is approximately 2.6 billion years old.

Another pegmatite, the lower Tanco pegmatite, occurs below the main Tanco pegmatite, and contains at least 30 mineral species; lithium mineral species found include lithian muscovite, spodumene, tourmaline, triphylite - lithiophilite (see: 52 L/6 TA 1).

HISTORY OF EXPLORATION AND DEVELOPMENT

The deposit is situated along the northern shoreline in the west end of Bernic Lake and continues to the south and west under the lake. The deposit is accessible from the west by way of a branch road off Provincial Road No. 315.

The previous history of this deposit is discussed in Mineral Inventory Card 52 L/6 SN 2. In 1955, S. Grewinski staked the deposit as Lith No. 5 (W21664), area 10.44 ha, and assigned it to D.S. McLeod, who had uncovered the old drill

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

records logging the interworking of the Jack Nutt Mine. "After drilling a 122 m hole that intersected pegmatite with a good grade of lithium" (Bannatyne, 1985, p. 43), the property was assigned to Montgary Explorations Limited (formerly, Montgary Petroleum Corporation Limited) which conducted a 7900 m drilling program.

Date	Total No. of DDH's	Estimated Reserves	% Li_2O	Average Thickness
8/9/55	9	1 080 000	1.52	10 m (33 ft)
15/11/55	19	1 938 000	1.485	12 m (39 ft)
12/4/56	33	4 000 000	1.665	
26/4/56	35	5 611 568	1.77	15 m (50.3 ft)
13/9/56	40	7 882 218	1.85	

Early in 1956, it was reported that "Montgary Explorations has joined hands with the Kawecki Chemical Co. of Boyertown, Pa., to put the company into production and to erect Canada's first lithium processing plant" (Northern Miner, April 12, 1956). This was subsequently denied by Kawecki Chemical.

Late in 1956 sinking of a three-compartment production shaft to a depth of 93 m was started and early in 1957, The American Metal Company of Canada took out an option on the property. Under the terms of the agreement, a new company would have been formed with a 60% interest by Amco and 40% by Montgary. In addition, if the option was exercised, Amco would have had to build a 907 - 1360 tonne (1000 - 1500 ton) concentrator and to assume the responsibility for marketing the lithium concentrate. In order to check the orebody, Amco employed three drills to grid drill the orebody. The additional 22 drill holes (2000 m, total footage) confirmed both the extent and grade and in fact extended the orebody to the southwest. However, "after a thorough survey of existing markets for lithium and its chemical derivatives and anticipated demand for the next decade, the American Metal Co., has decided not to exercise its option to bring into production the Montgary Explorations property" (Northern Miner, October 31, 1957). As a result of Amco's work, massive pollucite containing up to 35.43% Cs_2O was found in five separate drill holes.

In anticipation of bringing the mine into production, the shaft had been sunk to a depth of 93 m (306 ft) and the main station cut at the 86 m (282 ft) level. The shaft was sunk through a narrow section of the main ore-zone and an estimated 907 tonnes (1000 tons) of ore stockpiled on surface. A 23-tonne (25-ton) bulk sample was shipped to the Lakefield Research Laboratories to ascertain the most suitable crushing method. Work ceased in the fall of 1957 and the shaft was allowed to flood.

Early in 1959, it was reported that agreements had been reached for several thousands of tonnes (tons) of high grade amblygonite with Metallgesellschaft A.G. of Frankfurt, Germany. "Some 3600 tonnes of amblygonite was shipped to West Germany in 1959 - 1960" (Bannatyne, 1985). Reserves at this time were estimated to be over 8 166 970 tonnes (9 000 000 tons) averaging 2.14% Li_2O (Northern Miner, April 16, 1959). A month later the water was pumped out of the shaft and drifting toward the pollucite deposit begun. It was stated that a contract for 2720 tonnes (3000 tons) of quartz at $15.40 a tonne ($14/ton) was signed (Northern Miner, May 14, 1959).

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

In the middle of 1959, it was decided to examine a large body of aplitic albite for columbium-tantalum. Although the presence of several million tonnes (tons) of aplitic albite had been known for years, the material had previously been assayed only for tin content. Sampling of some 1360 tonnes (1500 tons) of material removed from the shaft and assays of representative samples showed that 450 tonnes (500 tons) of albite material average 0.1% Ta_2O_5 and 0.01% Cb_2O_5.

Late in 1959 it was reported that bulk samples of material taken from the drift face assayed 2.13% tin (Northern Miner, December 3, 1959). Gallium was also indicated (Northern Miner, December 10, 1959). Shortly after this Montgary Explorations Limited changed its name to Chemalloy Minerals Limited. For a continuation of the history, see Mineral Inventory Card 52 L/6 CS 1.

As of December 31, 1972, the upper layer near the roof of the sill, which varies in thickness from 5 to 27 m (15-90 ft), is estimated to contain 4 537 205 tonnes (5 000 000 tons) 2.98% Li_2O and in the lepidolite zone two sheet-like bodies up to 12 m (38 ft) thick are estimated to contain 97 730 tonnes (107 700 tons) 2.24% Li_2O (Northern Miner, June 14, 1973). An experimental gravity survey done in 1977, was successful in delineating the spodumene-rich zones as a 'relative' gravity high (Trueman, 1976).

Ore reserves as of Jan. 1, 1980, were estimated at spodumene (lithia) - 6 980 000 tonnes grading 2.76% Li_2O (Zahalan, 1980).

In 1981, a study of triphylite-lithiophilite which occurs in zones 1 to 6 and zone 9 of the Tanco pegmatite, was started (Fransolet et al., 1981).

Lithium reserves as of December 31, 1982 are shown below (Bannatyne, 1985, p. 44):

Lithium	Tonnes	Grade
a) Spodumene zone	6 667 719	2.75% Li_2O
b) Lepidolite	97 705	2.24% Li_2O

Reserves (proven, possible, probable) as of December 31, 1983 were reported as 6 624 320 tonnes (7 300 000 tons) with an average grade of 2.76% Li_2O (Canadian Mines Handbook, 1987-88, p. 373).

Spodumene pilot plant trials by Tantalum Mining Corporation of Canada Limited (Tanco) at Bernic Lake and by Kawecki Berylco Industries in Bayertown, Penn., were successful in producing a high grade lithium oxide concentrate suitable for use in the glass-ceramics industry. Plans were in hand to construct a plant to produce lithium compounds in Manitoba (see: 52L/6 TA 1). A lithium pilot plant was in operation from March to December 1973 (Canadian Mines Handbook, 1987-88, p. 373).

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

Tanco reported that the 100 tonne per day spodumene pilot plant commenced operation on May 1, 1984, and has operated satisfactorily since start-up. (Hudson Bay Mining and Smelting Co., Limited (HBMS), Report to Shareholders, June 30, 1984). The milling capacity of the plant was reported to be 150 tonnes per day in 1984. The pilot plant was the result of a temporary conversion of the tantalum mill to produce ceramic grade spodumene; a federal grant was provided in 1984 to assist in the mill conversion. The 300 tonne per day mill was constructed in 1985-1986 (Canadian Mines Handbook, 1987-88). Annual production was estimated at 12 000 tonnes. The engineering design was by Wardrop Associates of Winnipeg; the flow sheet design was by Tanco staff. The initial plans were to introduce heavy-medium separation capability, new product-blending, and load-out facilities. The next phase would add a separate ore storage, grinding, flotation facilities for the spodumene ore, so that tantalum ore could be produced simultaneously.

In the spring of 1986 a new $6.4 million spodumene plant was completed, and sales of high grade spodumene concentrates suitable for the ceramics and glass industries were made to plants in the U.S., France and Japan. It was reported that 17 240 tonnes (19 000 tons) of spodumene ore grading at 3.01% lithia was mined (HBMS, Annual Report, 1986). Tanco is producing lithium ore at a rate of 109 tonnes (120 tons) per day (Financial Post, 1986).

When the Tanco mine begins operations again in mid-1988, it is expected to produce 6800 kg (15 000 lbs) of ceramic grade spodumene concentrate annually (Winnipeg Free Press, December 4, 1987) (see: 52L/6 TA 1).

HISTORY OF PRODUCTION

The following production history was reported by Bannatyne (1985, p. 5):

	Spodumene (sp) or amblygonite (am) in tonnes
1958	sp (907 stockpiled)
1959	am 907
1960	am 2722
1961	sp 36
1962	
1963	
1964	
1965-1968	No production
1969	
1970	sp 907
1971	
1972	
1973	sp 181
1974	sp 1814

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Map 1194 G, Ryerson Lake (Aeromag), Scale 1:63 360, Manitoba Mines Branch and Geological Survey of Canada.

Map 49-7, Cat Lake-Winnipeg River area (Geol), Scale 1:63 360 - Accompanying Report by Springer (1950), Manitoba Mines Branch.

Map 54-1, Bird Lake area (Geol), Scale 1:12 000 - Accompanying Report by Davies (1955), Manitoba Mines Branch.

Preliminary Map 1975 F-9, Bird River area East (Geol), Scale 1:31 680, by D.L. Trueman, Manitoba Mines Branch.

Map ER80-1-1, Cat Lake-Winnipeg River pegmatite field (Geol), Scale 1:100 000 - Accompanying Report by Cerny et al.(1981), Manitoba Mineral Resources Division.

Map ER80-1-3, Winnipeg River pegmatite district (structural geology), Scale 1:50 000 - Accompanying Report by Cerny et al.(1981), Manitoba Mineral Resources Division.

Claim Map Series NW 6, 52L, Scale 1:31 680, Mining Recording, Manitoba Mines Branch.

REMARKS

1. Mineral Inventory Cards 52 L/6 SN 2, LI 8, CS 1 and TA 1 form a continuous series.
2. Lithium hydroxide was used in canisters aboard the Apollo XI moon flight as the Environmental Control System to keep the air clean.
3. Ownership of Tanco changed over the years starting as a 60/40 joint venture in 1967 between The Goldfields Corp and Chemalloy Minerals. In 1971 Chemalloy purchased Goldfields 60% interest. Chemalloy subsequently sold 24.99% of its interest to Kawecki Berylco Industries; and after Chemalloy went into receivership in 1975, HBMS obtained a 37.5% interest in Tanco in 1978, with Kawecki holding 37.5% and the Manitoba Government 25%. Under the terms of an agreement Hudson Bay became manager of the operation.

Comp./Rev.	JDB	CFL	HRW	JDB	HRW	AGJ	PA
By Date	11-73	01-79	02-82	04-82	08-84	02-87	04-88

PRODUCT Cesium **N.T.S. AREA** 52 L/6 NW **REF.** CS 1

NAME OF PROPERTY:
Tanco Pegmatite
(Lith No. 12)

OWNER OR OPERATOR AND ADDRESS
1988 - Tantalum Mining
Corporation of Canada
Limited
Bernic Lake, Manitoba
ROE OGO
37.5% interest - Hudson Bay Mining and Smelting Co., Limited
37.5% interest - Kawecki Berylco Industries
25% interest - Province of Manitoba

OBJECT LOCATED: Shaft **MINING DIVISION** Winnipeg

Lat. 50° 25.71'	Long. 95° 27.15'	UNCERTAINTY: 50 m
Sec. 15	Tp. 17	R. 15 EPM

DESCRIPTION OF DEPOSIT

The Tanco pegmatite, which is host to the deposit, occurs in the Archean Bird River greenstone belt which is comprised of metavolcanic, related and derived metasedimentary rocks of the Rice Lake Group. The areas north, east and southwest of the belt are occupied, respectively, by the Maskwa Lake, Marijane Lake and Lac du Bonnet batholiths (Crouse et al., 1979).

The Tanco pegmatite was emplaced, cogenetic with the Lac du Bonnet intrusion, as a bi-lobate shallow north-dipping doubly plunging feature, into the core of a synclinorium. The core is composed of interlayered polymictic metaconglomerate, metavolcanic rocks and iron formation; synvolcanically intruded by large stocks of composite nature of gabbro, diorite, quartz-feldspar porphyry and granodiorite (Crouse et al., 1979).

The pegmatite occupies an almost horizontal cross-cutting fracture in near vertical dipping amphibolites, forming a flat, tabular body almost 1300 m long, up to 300 m wide and 20-90 m thick (Tanco, 1981). According to Cerny (1982a) and Bannatyne (1985, p. 46), the pegmatite is 1440 m x 820 m, and just over 100 m thick.

From a large-scale viewpoint, the internal structure of the pegmatite exhibits nine zones of different mineral composition, texture and location plus a zone of contact exomorphism in the wallrock. Some of the outer zones appear to be concentric envelopes, but the inner zones occur as more or less discontinuous layers (confined to the upper central parts of the pegmatite). In detail the structure, however, shows a complex array of mineral assemblages and thus the nine zones are an over-simplification (Crouse et al., 1979).

Cesium occurs in the "pollucite zone" in three sheet-like bodies, the largest of which is 167 m (550 ft) in length, an average of 61 m (200 ft) in width and up to 14 m (45 ft) in thickness; its dimensions have also been reported as 180 x 75 x 12 m (Cerny, 1982a, p. 533; Bannatyne, 1985, p. 48).

Associated minerals or products of value
beryllium, lithium, tantalum, gallium, rubidium, tin,
quartz, feldspar, niobium, apatite, .

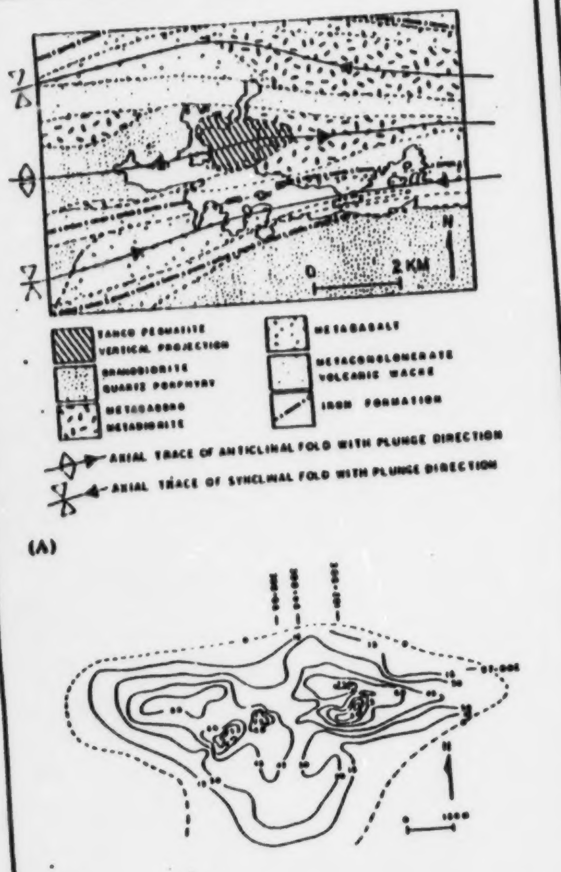
2 KM
0
N
TANCO PEGMATITE VERTICAL PROJECTION
GRANODIORITE QUARTZ PORPHYRY
METAGABBRO METADIORITE
METABASALT
METACONGLOMERATE VOLCANIC WACKE
IRON FORMATION
AXIAL TRACE OF ANTICLINAL FOLD WITH PLUNGE DIRECTION
AXIAL TRACE OF SYNCLINAL FOLD WITH PLUNGE DIRECTION
(A)
N
(B)

FIGURE 3. (A) Geologic map showing the vertical projection of the Tanco pegmatite with respect to adjacent lithologies in the mine area.
(B) Isopachous interpretation of the Tanco pegmatite based on diamond drill and Bouguer gravity data.

(Crouse et al, 1979)

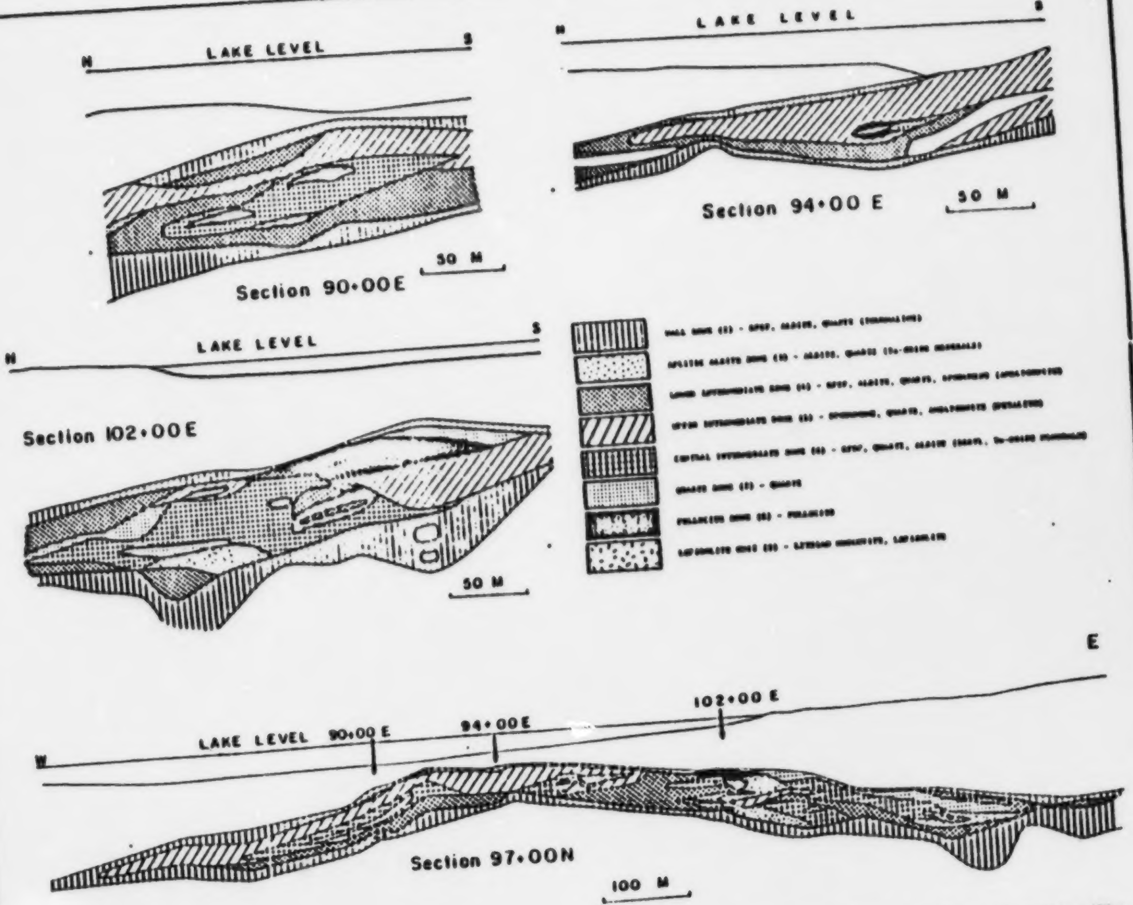

FIGURE 4. Three representative north-south cross sections, and a longitudinal east-west section of the Tanco pegmatite. The country-rock amphibolite is not patterned.

(Crouse et al, 1979)

DESCRIPTION OF DEPOSIT cont'd

"The zone consists almost entirely of pollucite, finely veined by very subordinate amounts of spodumene, albite, lithian muscovite, microcline, and quartz. Large crystals of manganoan apatite and amblygonite-montebrasite are found in the lower parts of the pollucite bodies and masses of petalite and quartz occur sparingly within them. Most of the pollucite shows a peculiar 'augen'-structure, consisting of clear glassy eyelets embedded in a braided white matrix" (Crouse and Cerny, 1972). Cestibtantite, and cesian analcime has been reported in the Tanco pegmatite (Cerny, 1982b).

According to Penner and Clark (1971), the Tanco pegmatite is approximately 2.6 billion years old.

Pollucite has been reported in another pegmatite body (370 m x 900 m, and up to 47 m thick), the lower Tanco pegmatite, which occurs below the main Tanco pegmatite (Ferreira, 1984). (See 52 L/6 TA 1). The discovery of Rb-Cs-rich zinnwaldite in the lower Tanco pegmatite is the first of its kind in Manitoba (Olson and Cerny, 1982).

HISTORY OF EXPLORATION AND DEVELOPMENT

The deposit is situated beneath Bernic Lake, approximately 180 m south-southeast of the Jack Nutt shaft (See: 52L/6 SN 2). The deposit is accessible by road from the west, a branch off of Provincial Road No. 315.

The early history of this deposit is shared with that of Akmen M.C. and Lith No. 5 (see: 52L/6 SN 2 and LI 8, respectively). However, because of its stratigraphic position it was not known to exist until The American Metal Company of Canada (later, America Metal Climax, Inc.) found massive pollucite containing up to 35.43% Cs_2O in five separate holes drilled on Lith No. 12 (W21671), optioned from Montgary Explorations Limited in 1957.

In 1959, drifting to the pollucite deposit began. In 1960, a 213 m (700 ft) cross-cut on the 87 m (285 ft) horizon from the shaft towards the south, and a raise driven up into the pollucite were completed. Two lots of cesium-bearing samples were sent to large American chemical firms.

Analysis of the composite of 49 channel samples representing a drift length of 64 m (211 ft) from the beryl-tantalite zone gave:

0.15% tin
0.42% tantalum pentoxide
0.15% beryllium oxide
0.01% columbium pentoxide
with pollucite and lithium minerals.

It was reported that the Chemalloy deposit "is not only the largest deposit known in the world (125 000 - 150 000 tons (113 430 - 136 120 tonnes) grading between 25%-30% Cs_2O and 1.0% Rb_2O) but also the only known sizable deposit in North America" (Northern Miner, April 28, 1960). By June 1960, a

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

stockpile of 2058 tonnes (2268 tons) of cesium ore averaging close to 27% Cs_2O was accumulated. Eighteen additional diamond drill holes, totalling 1577 m (5173 ft) were drilled from the ice of Bernic Lake to map the extent of the cesium and rubidium mineralization. At the end of September 1960, a total of 884 m (2900 ft) of drifting, cross-cutting and raising had been completed and underground drilling of 50 holes totalling 2134 m (7000 ft) carried out. "The shaft was deepened to 103 m, 1840 m of drifting was completed, and 149 underground holes were drilled by Chemalloy" (Bannatyne, 1985, p. 44).

During 1961 most operations appeared to have ceased except that 544 tonnes (600 tons) of quartz were removed from the underground workings by Nick Soroka. A 21-year Lease M-7542 was issued to Chemalloy Minerals Limited about the same time. Later in 1961, Chemalloy acquired the Noble Group adjoining the main property to the west from The Lithium Corporation of Canada, Limited, for stock (see remarks).

Early in 1962, 91 tonnes (100 tons) of pollucite were mined for Chemalloy by Mr. Soroka. Shortly afterward the underground pump was taken out and the mine was allowed to flood. During the next five years underground work ceased, but Chemalloy continued to sell ore from its stockpile (see History of Production).

Early in 1967, Chemalloy obtained backing for exploratory tests on the tantalum content of the Bernic Lake deposit. In 1959, Chemalloy commenced investigations to establish tantalum values (see Mineral Inventory Card 52L/6 LI 8), but the project was abandoned because of depressed markets at that time for the material. For a continuation of the history, see: 52L/6 TA 1.

Cesium reserves occur in three sheet-like bodies. The largest, in the southeast quadrant of the pegmatite, up to 14 m (45 ft) thick, is estimated to contain 272 230 tonnes (300 000 tons) 23% Cs_2O (as of December 31, 1972). In addition, there are 145 190 tonnes (160 000 tons) averaging 5% Cs_2O in the lower grade zones (Northern Miner, June 14, 1973).

Indications are that future markets for cesium are in magnetohydrodynamic (MHD) power generation and space propulsion.

George (1978) reported 372 000 tonnes of ore reserves. As of December 31, 1978, reserves were reported as "270 000 tonnes of pollucite averaging almost 23.9% Cs_2O in the main zone, 47 000 tonnes averaging almost 23.9% Cs_2O in one westerly zone and 55 000 tonnes of somewhat lower grade in the second westerly zone"; no allowances were made for dilution or pillars. Reserves don't include: "large areas of the pegmatite body containing quantities of pollucite averaging 500 to 1500 g of Cs_2O per tonne" (George, 1978). In addition, drilling below the main pegmatite body has indicated a second sill, approximately 30 m below the main body, that contains pollucite, tantalite and spodumene mineralization" (George, 1978). (See 52L/6 TA 1).

Ore reserves as of January 1, 1980 were estimated at pollucite (cesium oxide) - 270 000 tonnes grading 23.0% Cs_2O (Zahalan, 1980).

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

Reserves as of December 31, 1982:

	Tonnes	Grade
a) Main pollucite zone	317 520	23.89% Cs_2O
b) Additional "drill indicated"	54 430	'slightly lower grade'
c)	145 150	5% Cs_2O

(Source: Bannatyne 1985, p. 44)

Bannatyne (1985, p. 49) reported reserves of 320 000 tonnes grading 23.3% Cs_2O while the Canadian Minerals Yearbook (1985) reported reserves of 300 000 tonnes of pollucite grading 24% Cs_2O.

HISTORY OF PRODUCTION

In 1965 it was reported that the U.S. space program had been using around 2270 kg (5000 lbs) of cesium annually from the Chemalloy deposit and in 1964 was closer to 9070 kg (20 000 lbs) (Northern Miner, March 18, 1965). On April 18, 1965, the Northern Miner published that "Cesium metal refined from the 300 000 ton (272 230 tonne) pollucite ore deposit of Chemalloy's Bernic Lake property is propelling the first U.S. cesium ion engine rocket on a 90-day orbit through space at speeds as high as 100 000 miles (160 930 km) per hour".

From late 1969 to the end of 1975, a total of 1400 tonnes of pollucite averaging 27% Cs_2O was produced. Of the total, 86% went to the U.S.S.R., 8% went to the U.S.A., and the remainder to England, West Germany and Japan (Canadian Minerals Yearbook, 1975).

In 1976, the Canadian government banned shipments of cesium to communist countries (Canadian Minerals Yearbook, 1976). The deposit is the only source of Canadian cesium production (Canadian Minerals Yearbook, 1985).

Bannatyne (1985, p. 5) reported the following production history of pollucite:

Pollucite: contained Cs_2O (kg solid)

1960	2 268	1970	36 288?
1961	2 268	1971	90 720
1962	2 268	1972	19 618
1963	2 268	1973	68 040
1964	9 072	1974	71 887?
1965-1968		1975	78 640?
1969	9 072		

No shipments of ore were made in 1976, and a minor amount was shipped in 1977. In 1978, about 254 tonnes were shipped to the U.S. (George, 1978).

HISTORY OF PRODUCTION cont'd

Table 1. Canadian cesium production*, 1978-85
(Source: Canadian Minerals Yearbook, 1985, p. 17.4-17.5).

Year	Country	Pollucite Shipped (tonnes)	Cesium Oxide Grade (%)	Contained Cesium Oxide (tonnes)	Contained Cesium (tonnes)
1978	U.S.A.	254	27.2	69	65
1979	F.R.G.**	53	25	13	12
1980	-	-	-	-	-
1981	F.R.G.	300	24	72	68
1982	-	-	-	-	-
1983	F.R.G.	200	24	48	45
1984	F.R.G.	300	24	72	68
1985***	F.R.G./U.S.A.[1]	525	24	126	119

*In addition, there have been small orders from time to time; **Federal Republic of Germany; ***Estimated; - Nil.
[1] F.R.G. 500 tonnes/U.S.A. 25 tonnes.

In January, 1988, Regulation 59/88 regarding the shipment of cesium ore was passed: Production lease Nos. 7, 8, and 9 were to be exempted from subsection 9 (1) of the Mines Act with respect to cesium ore shipments not exceeding 1000 tonnes annually, and rubidium ore not exceeding 500 tonnes annually for a 5 year period starting June 1, 1987 (Manitoba Gazette, February 6, 1988) (see 52 L/6 TA 1, remarks).

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a Corporation Files; Lithium Corporation of Canada, Limited, The; Chemalloy Minerals Limited

Mineral Policy Sector, Corporation File: "Chemalloy Minerals Limited".

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MAP REFERENCES

#Map 52L/6, West, Ryerson Lake (Topo), Scale 1:50 000, Mines & Technical Surveys, Canada.

Map 1194 G, Ryerson Lake (Aeromag), Scale 1:63 360, Manitoba Mines Branch and Geological Survey of Canada.

Map 49-7, Cat Lake-Winnipeg River area (Geol), Scale 1:63 360 - Accompanying Report by Springer (1950), Manitoba Mines Branch.

Map 54-1, Bird Lake area (Geol), Scale 1:12 000 - Accompanying Report by Davies (1955), Manitoba Mines Branch.

Preliminary Map 1975 F-9, Bird River area East (Geol), Scale 1:31 680, by D.L. Trueman, Manitoba Mines Branch.

Map ER80-1-1, Cat Lake-Winnipeg River pegmatite field (Geol), Scale 1:100 000 - Accompanying Report by Cerny et al.(1981), Manitoba Mineral Resources Division.

NAME OF PROPERTY **FILE NO.** 187
Tanco Pegmatite (Lith No. 12) **N.T.S. AREA** 52L/6 NW **REF.** CS 1

MAP REFERENCES cont'd

Map ER80-1-3, Winnipeg River pegmatite district (structural geology), Scale 1:50 000 - Accompanying Report by Cerny et al.(1981), Manitoba Mineral Resources Division.

Claim Map Series NW 6, 52L, Scale 1:31 680, Mining Recording, Manitoba Mines Branch.

REMARKS:

1. In 1956, Lithium Corporation had carried out surface diamond drilling (656 m (2152 ft) in four holes) here, and succeeded in extending the Chemalloy pegmatite westward. Also, a second body, about 38 m (125 ft) beneath the upper, was intersected. It contains lithia-bearing material and beryl. Gallium was found in the lithia mica sections. Chemalloy, in 1961, drilled four holes totalling 734 m (2407 ft), on the Noble claims. Only one of these intersected pegmatite.

2. Mineral Inventory Cards 52 L/6 SN 2, LI 8, CS 1 and TA 1 form a continuous series.

Comp./Rev.	JDB	AJ	CFL	HRW	JDB	PA
By Date	11-73	07-75	11-78	02-82	04-82	04-88

MANITOBA ENERGY AND MINES **MINERAL INVENTORY FILE NO. 213**

PRODUCT Tantalum **N.T.S. AREA** 52 L/6 NW **REF.** TA 1

NAME OF PROPERTY:
Tanco Pegmatite
(Lith Nos. 11 and 12)

OWNER OR OPERATOR AND ADDRESS
1988 - Tantalum Mining
Corporation of Canada
Limited
Bernic Lake, Manitoba
ROE OGO
37.5% interest - Hudson Bay Mining and Smelting
Co., Limited
37.5% interest - Kawecki Berylco Industries
25% interest - Province of Manitoba

OBJECT LOCATED: Shaft **MINING DIVISION** Winnipeg

Lat. 50° 25.71'	Long. 95° 27.15'.	UNCERTAINTY: 50 m
Sec. 15	Tp. 17	R. 15 EPM

DESCRIPTION OF DEPOSIT

The Tanco pegmatite, which is host to the deposit, occurs in the Archean Bird River greenstone belt which is comprised of metavolcanic, related and derived metasedimentary rocks of the Rice Lake Group. The areas north, east and southwest of the belt are occupied, respectively, by the Maskwa Lake, Marijane Lake and Lac du Bonnet batholiths (Crouse et al., 1979).

The Tanco pegmatite was emplaced, cogenetic with the Lac du Bonnet intrusion, as a bi-lobate shallow north-dipping, doubly plunging feature, into the core of a synclinorium. The core is composed of interlayered polymictic metaconglomerate, metavolcanic rocks and iron formation; synvolcanically intruded by large stocks of composite nature of gabbro, diorite, quartz-feldspar porphyry and granodiorite (Crouse et al., 1979).

The pegmatite occupies an almost horizontal cross-cutting fracture in near vertical dipping amphibolites, forming a flat, tabular body (Tanco, 1981) that has been traced E-W for 1440 m, and N-S for 820 m, and is slightly more than 100 m thick (Cerny, 1982; Bannatyne, 1985, p. 46).

From a large-scale viewpoint the internal structure of the pegmatite exhibits nine zones of different mineral composition, texture and location plus a zone of contact exomorphism in the wallrock. Some of the outer zones appear to be concentric envelopes, but the inner zones occur as more or less discontinuous layers (confined to the upper central parts of the pegmatite). In detail the structure, however, shows a complex array of mineral assemblages and thus the nine zones are an over-simplification (Crouse et al., 1979).

Associated minerals or products of value
beryllium, lithium, cesium, gallium, rubidium, tin, quartz, feldspar
niobium, apatite.

DESCRIPTION OF DEPOSIT cont'd

Tantalum minerals occur in economic quantities in the albitic aplite zone, the central intermediate zones (referred to broadly as the microcline-quartz-mica zone), and the lepidolite zone. The most important of these zones is the central intermediate zone in which two lenticular bodies have been mined. The "Shaft Area" is 300 m long with an average width and thickness of 122 m and 15 m, respectively. The top of the orebody is at 60 m and the lowest intersection 150 m below Bernic Lake. The "West Area" is 125 m long, 105 m wide and 14 m thick. Its top is at 67 m and lowest intersection 124 m below Bernic Lake (Northern Miner, April 17, 1969). The West orebody contains significant amounts of microlite with a Ta_2O_5 content of 73%, usually found as a thin 'smear' on gangue minerals, and simpsonite. The Tanco pegmatite is known to contain approximately 75 mineral species including seven tantaliferous minerals: wodginite, varieties of microlite, ordered and disordered tantalite, tapiolite, simpsonite, and stibiotantalite (Burt et al., 1982). Wodginite is the main tantalum mineral (Foord, 1982). (See also: Trueman and Turnock, 1982).

The Tanco pegmatite, according to Penner and Clark (1971) is approximately 2.6 billion years old.

Another pegmatite body (370 m x 900 m, and up to 47 m thick) known as the lower Tanco pegmatite occurs below the main Tanco pegmatite: it has an easterly strike, and a shallow dip to the north (Ferreira, 1984). It hosts Li-Rb-Cs-Ta-Nb-Sn-Ti mineralization. Mineral species known to occur include quartz, albite, microcline-perthite, muscovite, lithian muscovite, Rb-Cs-rich zinnwaldite, spodumene, tourmaline, triphylite-lithiophilite, beryl, apatite, ixiolite (as the main tantalum mineral), disordered tantalite, cassiterite, zircon (with up to 10% HfO_2), sphalerite (with up to 2.18 wt% Cd), pollucite, montmorillonite-chlorite, bityite (a 'Be-rich' mica), uranian microlite (with Pb, Th, Na, and up to 8% UO_2) (Olson and Cerny, 1982; Ferreira, 1984).

Beryl and cassiterite have been reported in small pegmatites exposed at the surface (Bannatyne, 1972). (See Mineral Inventory Card 52L/6 SN 2).

HISTORY OF EXPLORATION AND DEVELOPMENT

The deposit is located in two separate zones at the west end of Bernic Lake. One zone named "Shaft Area" is immediately south of the shaft and the other zone (approximately 400 m west of the "Shaft Area") named "West Area". Neither zone outcrops at surface and the "Shaft Area" is partly under Bernic Lake while the "West Area" is totally under water. The deposit is accessible by road from the west, a branch off of Provincial Road No. 315.

It was because of their stratigraphic position that neither zone was found until after the latest stakings over them. The "Shaft Area" is located within the boundaries of Lith No. 12 (W21671) while the "West Area" is located within Lith No. 11 (W21670). For previous work in the vicinity of tantalum deposits, see Mineral Inventory Cards 52L/6 SN 2, LI 8 and CS 1.

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

Early in 1967, Chemalloy Minerals Limited reached an agreement with A.G. Kilchherr of Basle, Switzerland, to supply funds for additional diamond drilling and dewatering the underground workings so that an evaluation of the tantalum zone could be made. Under the terms of the agreement, title to the cesium stayed with Chemalloy Minerals Limited.

After the shaft had been dewatered in April 1967, a bulk sample, from channel samples cut underground, was sent to Ottawa for concentration tests. The sample graded 0.37 to 0.45% Ta_2O_5 and was concentrated to 50% Ta_2O_5 from which 5 to 6 kg (11 to 13 lbs) of tantalum was obtained. By May, 1967, 450 tonnes (500 tons) of tantalum-bearing material had been hoisted and 73 tonnes (80 tons) with an average grade of 0.33% Ta_2O_5 sent to Ottawa. A total of 227 kg (500 lbs) concentrate were obtained and samples sent to Union Carbide and CIBA Corp. (Chemical Industry in Basle).

A.G. Kilchherr assigned its commitment to spend $100 000 U.S. dollars on the property to Goldfield Corp. of New York along with a 40% interest in the property, if it was brought into production.

On June 22, 1967, the Northern Miner reported that drifts and diamond drilling on less than "100-foot (31-m) centres" had indicated in the shaft area and above the 250 m (820 ft) level, 256 080 tonnes (282 200 tons) probable ore grading 0.28% Ta_2O_5, plus 67 600 tonnes (74 500 tons) possible ore grading 0.25%. Below the 250 m (820 ft) level there exists 103 900 tonnes (114 500 tons) possible ore grading 0.22% Ta_2O_5 and 366 m (1200 ft) west of the shaft 490 497 tonnes (540 528 tons) indicated and inferred ore grading 0.33%. In order to test these figures, 74 vertical holes and 16 underground holes in the "Shaft Area" and 19 vertical holes in the "West Area" were drilled. The results of this program indicated 1 771 040 tonnes (1 951 686 tons) at 0.23% Ta_2O_5. On the basis of these results a new company was formed, Tantalum Mining Corporation of Canada Limited (Tanco), in which Chemalloy Minerals Limited held 40% interest through its Canadian subsidiary, Northern Goldfields Exploration Limited. An experimental gravity survey was done over the orebody in 1968 and later in 1977 (see Mineral Inventory Card 52L/6 LI 8).

The first shipments of tantalum concentrate began in August 1969, and the official opening of the mine was on the 8th of September. The method of mining was the open stope method on a room-and-pillar pattern, from a 20% ramp decline. The milling capacity was 800 tonnes per day in 1969.

Late in 1969, Tanco contracted to ship 45 360 kg (100 000 lbs) of pollucite ore containing a minimum 20% Cs_2O to Russia. Because the pollucite ore was not included in the main agreement in the formation of Tanco, a 25% royalty was paid to Chemalloy Minerals Limited prior to the 60-40 corporate split. Early in 1970, Tanco received another order for pollucite ore from the Soviet Union. This brought sales to 199 580 kg (440 000 lbs) of pollucite containing 45 360 kg (100 000 lbs) of cesium oxide.

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

A year after the mine was opened a complex legal situation developed between various companies that had contributed funds to the mining operation. In February 1971, most of the litigation was dismissed when Chemalloy purchased from Goldfield Corp., New York, the remaining 60% of Tanco. Shortly afterward, it was announced that a new tantalum orebody had been found lying parallel to, but 46 m (150 ft) below the bottom of the one that hosts the ore from which all production had been drawn. One hole, a vertical boring, cut ore between 152-156 m (500-512 ft) grading 0.19% Ta_2O_5, while 55 m (180 ft) away the other hole cut ore between 148-155 m (485-510 ft), grading 0.24%, including a 5-m (15-ft) section from 148-152 m (485-500 ft) running 0.40% (Northern Miner, February 10, 1972).

In February 1972, Tanco obtained a loan from the Manitoba Development Corporation to construct a mill for the production of lithium concentrates. A month later "holes L-6 and L-7 located 1000 feet (305 m) from the first two holes and 50 feet (15 m) apart in a north-south direction averaged 0.17% tantalite over 8 feet (2 m) and 0.20% tantalite over 21 feet (6 m)" (Northern Miner, March 9, 1972).

The final litigation was resolved in July 1972, when Tanco agreed to pay General Host Corp. $5 million at 5% simple interest, over a period of 10 years, out of production. In addition, the Manitoba Development Corporation agreed to buy a 15% interest in the mine for $1.5 million and guaranteed some of the obligations of Tanco and Chemalloy for an additional 10% interest.

According to the Northern Miner (June 14, 1973), "Tantalum reserves at Dec. 31, 1972 were 1 419 576 tons (1 288 180 tonnes) 0.224% Ta_2O_5 of which 388 460 tons (352 505 tonnes) grading 0.23% Ta_2O_5 was estimated to remain in pillars".

As of June 14, 1973, the mine had been developed by a 169-m (553-ft) three-compartment shaft used for hoisting ore, two main levels at 86 m (282 ft) and 133 m (436 ft), and a decline, used as an access route by the miners, which was down to 130 m (425 ft) only a few metres (feet) away from the second level. The lower haulage way had been driven 381 m (1250 ft) from the shaft to the West orebody, and development of the upper level had been started, following the hanging wall of the spodumene orebody, about 64-70 m (210-230 ft) below surface (Northern Miner, June 14, 1973).

A lithium pilot plant was in operation from March to December 1973 (Canadian Mines Handbook, 1987-88, p. 373).

The presence of gallium has been known in several of the Bernic Lake pegmatite zones and of the approximately 136 120 tonnes (150 000 tons) of tailings produced annually at the mine it is estimated that about 6800 kg (15 000 lb) gallium contained in concentrate can be removed (Northern Miner, June 14, 1973 *in* Chemalloy, Corporation File). "Gallium occurs in micas in the tailings and also in the lepidolite zone in concentrations of the order of 500 ppm" (Bannatyne, 1985, p. 49). Gallium reserves as of December 31, 1982 are estimated at 674 000 tonnes in tailings, with a grade estimated at 54.9 g/t (1.6 oz/ton) (Bannatyne, 1985, p. 44).

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

The 454-tonne (500-ton) tantalum mill started production in April 1969, reaching capacity in September 1969. Production ceased in 1973. (See History of Production figures). In January 1974 production resumed at 635 tonnes (700 tons) per day.

Simpson (1974) examined 113 beryl samples which he took from the wall zone, lower intermediate zone, lepidolite zone, and central intermediate zone. The latter zone contains the maximum concentration of beryl. If a suitable flotation method were found for the separation of beryl it could be extracted economically as a by-product in the tantalum operation. Beryllium reserves as of December 31, 1982 are reported as 834 625 tonnes (920 000 tons) grading 0.21% BeO (Bannatyne, 1985, p. 44).

On January 11, 1975, the previous leases (M-7542, M-7546) of the Lith Nos. 5, 11, 12 claims fell under Production lease Nos. 7, 8, 9 comprising 593 ha, 579 ha, 492 ha respectively, which were issued to Tanco for a period of ten years.

The economic value of the mill tailings has been monitored since the mine began production. From 1969-1974, the tailings assayed 0.061 - 0.088% Ta_2O_5 and consisted of 675 000 tonnes of material. Until the end of 1978, the tailings grade was still higher than 0.05% Ta_2O_5. Drilling carried out in 1978 on the older part of the dam outlined 360 000 tonnes of tailing grading at 0.07% Ta_2O_5. A 40% recovery from the tailings to a concentrate of 25% Ta_2O_5 or better was expected.

In late 1979, a $1 million mill-expansion program was begun to increase milling capacity to 900 tonnes per day, and to permit reprocessing of tantalite tailings at 186 tonnes per day. The incorporation of a flotation circuit was also planned.

In 1980, 499 m (1636 ft) of drifting to outline lower grade zones in the Shaft orebody was done, as well as 2134 m (7000 ft) of diamond-drilling in the West orebody area (Canadian Mines Handbook, 1984-1985, p. 367). Reserves as of January 1, 1980 were estimated as tantalite - 1 100 000 tonnes grading 0.15% Ta_2O_5 (Zahalan, 1980). December 31, 1980 reserves (proven, possible and probable) were 1 098 000 tonnes (1 210 000 tons) averaging 0.14% Ta_2O_5; stored tailings, 724 140 tonnes (798 000 tons) averaging 0.07% Ta_2O_5 (Canadian Mines Handbook, 1981-82).

Normal annual production of mine ore is maintained by stockpiling in summer and drawing on stockpile in winter. Mine tonnage was stabilized at 830 tonnes/day, and reduced to 820 tonnes/day during April 1981. "Tantalite concentrates, with mill recovery of 73% grading between 35 and 40% Ta_2O_5" were produced until December, 1982 (Bannatyne, 1985, p. 49) (see: History of Production figures). A 30% Ta slag (or Ta metal) was reported as a potential product.

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

Since 1980, 30 800 tonnes of tailings were treated, and a further 50 000 tonnes were processed during the summer of 1981 when a recovery of over 55% was achieved (Fleming et al., 1982). A tantalum recovery of 76.76% was recorded in November, 1981. In the summer of 1981, the lower Tanco body was opened by underground mining operations; "it has been documented by a dense pattern of drillholes." (Olson, 1981, p. 21).

The original two-stage gravity concentrator plant has evolved into a more complex gravity plant; a flotation plant has been recently introduced (Flemming et al., 1982). Mineralogical studies of triphylite-lithiophilite (Fransolet et al., 1982), and of apatite (Cerny et al., 1982), in the Tanco pegmatite started during 1981-1982.

On December 31, 1982, operations suspended indefinitely due to high product inventory and weak market conditions. Tantalum reserves as of December 31, 1982 were reported as (Bannatyne, 1985, p. 44):

		Tonnes	Grade
a)	Underground	1 047 000	0.144% Ta_2O_5
b)	Tailings	647 000	0.065% Ta_2O_5
	Pre-production	1 879 136	0.216% Ta_2O_5

An estimate of ore reserves prepared by Tanco's geologists as of January 1, 1983, is:

		% Ta_2O_5
Ore:		
Proven	353 000	0.179
Probable	652 000	0.105
Stored tailings		
Proven	327 000	0.065
Probable	375 000	0.065

December 31, 1983 reserves (proven, possible and probable) were reported as: 980 940 tonnes (1 081 000 tons) averaging 0.138% Ta_2O_5; stored tailings 637 020 tonnes (702 000 tons) averaging 0.065% Ta_2O_5 (Canadian Mines Handbook, 1987-88, p. 373).

Ownership of Tanco changed over the years, starting as a 60/40 joint venture in 1967 between The Goldfield Corp and Chemalloy Minerals. In 1971 Chemalloy purchased Goldfield's 60% interest. The Manitoba Government acquired 25% ownership of Tanco in 1972. Chemalloy subsequently sold 24.99% of its interest to Kawecki Berylco Industries; and after Chemalloy went into receivership in 1975, Hudson Bay Mining and Smelting Co., Limited obtained a 37.5% interest in Tanco in 1978, with Kawecki holding 37.5% and the Manitoba Government 25%. Under the terms of an agreement Hudson Bay became manager of the operation.

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

About 60% of tantalum concentrates are sold to the Reading, Pennsylvania-based Kawecki Berylco Industries division of Cabot Corp. under a long-term contract. Although mining has been suspended since 1982, some sales of stockpiled tantalite concentrates were made in 1985 and 1986. The spodumene plant was brought on line in 1986 (see 52 L/6 LI 8).

On November 30, 1987, Tanco announced it would re-open the mine by mid-1988 (June) (The Leader, December 1, 1987). Tanco will spend about $4.7 million on refurbishing the mine and mill, completing a spodumene mill and upgrading power and water services (Northern Miner, December 7, 1987). Several multi-year contracts for tantalum concentrates will take effect mid-1988.

When in operation, the mine is expected to produce 108 860 kg (240 000 lbs) of tantalum concentrate and 6800 kg (15 000 lbs) of spodumene concentrate, annually (Winnipeg Free Press, December 4, 1987). Regulation 59/88 concerning the shipment of tantalum, cesium and rubidium was passed in January 1988 (see: Remarks). Tanco is also considering the feasibility of adding potassium and sodium feldspar to its production list (Gunter and Segard, 1987).

HISTORY OF PRODUCTION

Year	Tonnage		Milled	Concentrate Produced		
	tonnes	(tons)	% Ta_2O_5	kg	(lbs)	%Ta_2O_5
1970	138 365	(152 478)	0.226	143 800	(317 024)	51.55
.						
.						
.						
1979	163 800	(180 505)	0.137	156 120	(344 186)	-
1980	a) 147 200	(162 212)	0.136	134 950	(297 512)	-
	b) 31 560	(34 779)	0.055			
1981	a) 137 890	(151 950)	0.122	134 825	(297 234)	-
	b) 49 980	(55 074)	-			
1982	a) 128 860	(142 000)	0.125	-		-
	b) 34 480	(38 000)	0.067	-		-

Note: a) ore; b) tailings.

Ta_2O_5 in concentrate shipped in 1982 totalled 59 280 kg (130 683 lbs). As of April 1, 1983, approximately 124 290 kg (274 000 lbs) Ta_2O_5 remained in inventory.

HISTORY OF PRODUCTION cont'd

Production history of tantalite, 1969 - 1983.
(Source: Bannatyne, 1985, p. 5)

Year	Tantalite contained Ta_2O_5 kg		
1969	59 103	1980	127 000*
1970	143 802	1981	103 949**
1971	203 943	1982	59 000***
1972	18 652	1983	Nil
1973	77 376		
1974	198 877		
1975	178 304		
1976	139 833		
1977	139 757		
1978	158 776		
1979	158 845		

*reported as 115 261 kg (Manitoba Mines Branch, Annual Report 1981-82).
**reported as 104 000 kg (Manitoba Mines Branch, Annual Report 1982-83).
***reported as 125 tonnes (Canadian Minerals Yearbook 1982).

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- c Non-confidential Assessment Files; File Nos. 91555, 91556.
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Map ER80-1-3, Winnipeg River pegmatite district (structural geology), Scale 1:50 000 - Accompanying Report by Cerny et al.(1981), Manitoba Mineral Resources Division.

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REMARKS:

1. Mineral Inventory Cards 52 L/6 SN 2, LI 8, CS 9 and TA 1 form a continuous series.

2. January 25, 1988, Production lease Nos. 7, 8, 9 were exempted from subsection 9(1) of the Mines Act with respect to tantalum oxide shipments for a 5-year period starting February 1, 1984; to cesium ore shipments not exceeding 1000 tonnes annually and rubidium ore not exceeding 500 tonnes annually for a 5-year period starting June 1, 1987 (Manitoba Gazette, 1988).

3. "Other potential products include feldspar for dental spar, amblygonite as a ceramic glaze and feldspathic sand from reprocessed tailings for bottle glass. Rubidium-rich lepidolite, containing about 3% Rb_2O will have to await development of markets as current world consumption is less than 5 tonnes annually. Abundant quartz is present in essentially monomineral concentrations in the Tanco pegmatite, and reserves are estimated at 700 000 tonnes." (Bannatyne, 1985, p. 49). Quartz reserves as of December 31, 1982 were reported as 708 340 tonnes (Bannatyne, 1985, p. 44).

4. First suggested in unpublished reports on Ta-ore concentrates, zircon was later found in a hand-specimen from the spodumene zone in the spring of 1975, and later in Ta-ore concentrates. Hafnian zircon is found in albite unit (3), inside the central intermediate zone (6), in lepidolite unit (9), occassionally in the spodumene-rich upper intermediate zone (5) (Cerny and Siivola, 1980). Hafnian zircon with about 17 wt% HfO_2 was reported in zone (3) (Cerny, 1982, p. 536).

5. For cross-sections of the lower Tanco pegmatite, and a mine-plan: see Ferreira (1984).

Comp./Rev.	JDB	AGJ	HRW	JDB	HRW	AGJ	PA
By Date	11-73	07-75	02-82	04-82	09-83	02-87	04-88

MANITOBA ENERGY AND MINES **MINERAL INVENTORY FILE NO. 153**

PRODUCT Beryllium **N.T.S. AREA** 52L/5 SE **REF.** BE 1

NAME OF PROPERTY:
Lucky No. 3

OWNER OR OPERATOR AND ADDRESS
1988 - Open

OBJECT LOCATED: Centre of claim **MINING DIVISION** Winnipeg

Lat. 50° 19.8' Long. 95° 31.5' UNCERTAINTY: 500 m

Sec. 7 Tp. 16 R. 15 EPM

DESCRIPTION OF DEPOSIT

The deposit is situated within pegmatite dykes which have intruded into the quartz diorite and granodiorite of the Archean Great Falls Pluton. The beryl crystals, within the dykes, range in size from 0.6 cm to 3.8 cm (1/4 to 1 1/2 inches) in diameter.

Bannatyne (1985, p. 21) described two pegmatite dykes of the property: "The northern dyke strikes 185°, and dips moderately to the west. It is about 1.8 m wide and is exposed for 25 m north from the shoreline". Drilling indicated that "the dyke dips 57° south and increases to 3 m thick on its southern extension under Winnipeg River". It contains abundant quartz + pink feldspar intergrowths, pink perthite megacrysts, and clusters of both biotite and muscovite, and patches of finer grained quartz + albite + muscovite + garnet containing small 0.6 cm beryl crystals and small grains of ixiolite and tantalite. The southern dyke strikes 90°, dips 30° north, and also contains a few beryl crystals. It is similar in composition to the northern dyke. Rare pseudo-ixiolite has been reported in both dykes (Cerny et al., 1981 in Bannatyne, 1985).

HISTORY OF EXPLORATION AND DEVELOPMENT

The deposit is located on the west bank of the Winnipeg River, 4 km north and 0.8 km east of Pointe du Bois and Provincial Road No. 313.

The deposit was originally staked as part of Jet No. 3 and 4 (W29378, 9) by K.M. Wengel in 1958. The next year, an airborne EM survey was done in the area under Airborne Permit No. 26 by Canadian Nickel Company Limited using the INCO dual frequency (IP/OP) system (Non-confidential Assessment File No. 90008). The claim was restaked in 1960 as Lucky No. 3 (W33264) by L. Drawson. Four shallow diamond drill holes totalling 36 m were drilled by J. Donner on behalf of George A. McCartney, president of Bardyke Mines Limited, during the next year (Non-confidential Assessment File No. 91305; Canadian Mines Handbook, 1961, p. 18). See Figure 1. The southern dyke has been trenched (Bannatyne, 1985).

Associated minerals or products of value
tantalum.

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

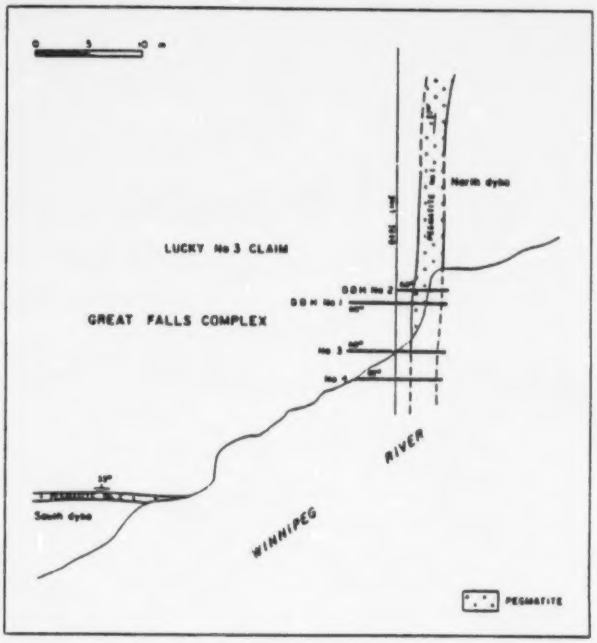

Figure 1 : Plan of drill holes, pegmatites on Lucky No. 3 claim (adapted from file 91305).

(Source: Bannatyne, 1985:21).

The area was restaked as Lucky No. 6 (W36425) in 1963 by G.H. Drawson. The next year the claim was assigned to Harvey Hunter Owens and Jens Lassen Faurschou. In 1970 J.L. Faurschou assigned all his interest to H.H. Owens. In 1971, a helicopter EM and radiometric survey was done by Hudson Bay Exploration and Development Company Limited under Airborne Permit No. 93 (Non-confidential Assessment File No. 91686). In 1972 the claim was assigned to John Richard Arbuthnott, James Russell Collett and Frederick Richard Bradley with 1/3 interest each.

The claim was temporarily cancelled in 1974, permanently in December 1976.

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Wright, J.F., 1932, Lac du Bonnet Sheet (with descriptive notes); Geological Survey of Canada, Map 275A.

MAP REFERENCES

*Map 52L/5, East, Pointe du Bois (Topo), Scale 1:50 000, Mines & Technical Surveys Canada.

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Map 36252G, Pointe du Bois (Airborne Gamma-ray Spectrometry), Scale 1:250 000, Geological Survey of Canada, Province of Manitoba, Province of Ontario (1976).

Map 275A, Lac du Bonnet Sheet (Geol), Scale 1:63 360 - Accompanying Descriptive Notes by Wright (1932), Geological Survey of Canada.

Map 51-3, Bird River area (Geol), Scale 1:31 680 - Accompanying Report by Davies (1952), Manitoba Mines Branch.

Preliminary Map 1972 F-1, Geological compilation map of the Bird River area (Geol), Scale 1:50 000, by D.L. Trueman, Manitoba Mines Branch.

Preliminary Map 1976 F-8, Pointe du Bois (Geol), Scale 1:50 000, by D.A. Janes, Manitoba Mines Branch.

MAP REFERENCES cont'd

Preliminary Map 1978 F-2, Pointe du Bois, west part (Geol), Scale 1:250 000, by D.A. Janes, Manitoba Mines Branch.

Map ER80-1-1, Cat Lake-Winnipeg River pegmatite field (Geol), Scale 1:100 000 - Accompanying Report by Cerny et al.(1981), Manitoba Mineral Resources Division.

#Claim Map Series SE 5, 52L, Scale 1:31 680, circa 1961, Mining Recording, Manitoba Mines Branch.

REMARKS

1. Beryl crystals were also found in pegmatite dykes on Lucky Nos. 10, 11 and 12 (W33271, 2, 3).
2. Beryl is also reported from an area located about 4.4 km (2.75 mi) west-southwest of Lamprey Falls (see Phillips, 1978).

Comp./Rev.		CC	PA
By Date	03-61	09-73	05-88

PRODUCT Beryllium **N.T.S. AREA** 52L/5 SE **REF.** BE 2

NAME OF PROPERTY:
K. 1

OWNER OR OPERATOR AND ADDRESS
1988 - Open

OBJECT LOCATED: Pegmatite dyke **MINING DIVISION** Winnipeg

Lat. 50° 20.1' Long. 95° 32.3' UNCERTAINTY: 100 m

Sec. 17 Tp. 16 R. 15 EPM

DESCRIPTION OF DEPOSIT

The deposit is situated within a pegmatite dyke which intruded Archean quartz diorite and granodiorite of the Great Falls Pluton. The following description is from Bannatyne (1985):

The pegmatite contains an upper and a lower wall zone consisting of fine- to medium-grained quartz + pink K-feldspar + albite; muscovite in clusters up to 30 cm long, and from 2.5 to 15 cm wide, in the upper zone; red garnets are found along the quartz + K-feldspar contact in the lower zone. The main part of the pegmatite consists of coarse-grained pink and white perthite, radiating red albite, and perthite + quartz intergrowths.

Beryl occurs mainly as hexagonal crystals, some as beryl anhedra "scattered through pink perthite", while some crystals contain red albite intergrown along crystal planes. Glassy, faintly bluish and yellowish green beryl has been noted. The largest beryl crystals, observed by Bannatyne (1985), were 10 cm x 10 cm and 7.5 cm x 20.3 cm in size.

Acessory minerals include: pseudo-ixiolite in beryl, slightly radioactive pseudo-ixiolite in red albite, tantalite-columbite in red cleavelandite, and rare niobian rutile (Bannatyne, 1985).

HISTORY OF EXPLORATION AND DEVELOPMENT

The deposit is located 3.2 km north and 0.4 km east of Pointe Du Bois and Provincial Road No. 313. It outcrops 305 m southeast of a deep bay on the north shore of the Winnipeg River. The dyke strikes approximately north-south.

The deposit was staked under the 15.8-ha K. 1 (W562) claim in 1932 by George Ross. It has been assigned as follows:

1933	assigned David Dyson.
1938	assigned Winnipeg River Tin Mines Limited.
1948	21-year lease M-2032 issued.

Associated minerals or products of value
tantalum, columbium, feldspar.

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

1956	assigned Dalhart Minerals Corporation Limited.
1960	assigned Canhart Mines Limited.
1969	assigned Tanlith Mines Limited; 21-year lease renewed.
1975	M-2032 converted back to claim K. 1 (W562).

Some feldspar was quarried probably around the mid-1930's (Bannatyne, 1985). It was also reported that about 9 tonnes of beryl crystals was stockpiled on the property before 1941, and "only a small amount remained by 1957" (Bannatyne, 1985, p. 20).

In 1959, Canadian Nickel Company Limited did an airborne EM survey over the area under Airborne Permit No. 26 (Non-confidential Assessment File No. 90008). A helicopter EM and radiometric survey was done in the area by Hudson Bay Exploration and Development Company Limited in 1971, under Airborne Permit No. 93 (Non-confidential Assessment File No. 91686).

A microprobe analysis of niobian rutile inclusions in disordered columbite, indicated contents of 3.5% Ta_2O_5, 3.8% Nb_2O_5, 87.8% TiO_2, 0.4% SnO_2, 1.4% ZrO_2, 0.01% Sb_2O_3, 3.4% FeO, 0.2% MnO, 0.2% CaO (total: 100.7%) (Cerny et al., 1981, p. 117).

The K. 1 claim was cancelled in 1982.

HISTORY OF PRODUCTION

Some feldspar quarried....................	mid-1930's (?).
9 tonnes of beryl crystals stockpiled....	before 1941; most was removed before 1957.

REFERENCES

Bannatyne, B.B., 1972, Pegmatite project; in Summary of Geological Fieldwork 1972; Manitoba Department of Mines, Resources and Environmental Management, Mines Branch, Geological Paper 3/72, p. 50-53.

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MAP REFERENCES

*Map 52L/5, East, Pointe du Bois (Topo), Scale 1:50 000, Mines & Technical Surveys Canada.

Map 4070G, Pointe du Bois (Aeromag), Scale 1:63 360, Manitoba Mines Branch and Geological survey of Canada.

Map 36252G, Pointe du Bois (Airborne Gamma-ray Spectrometry), Scale 1:250 000, Geological Survey of Canada, Province of Manitoba, Province of Ontario (1976).

Map 275A, Lac du Bonnet Sheet (Geol), Scale 1:63 360 - Accompanying Descriptive Notes by Wright (1932), Geological Survey of Canada.

#Map 51-3, Bird River area (Geol), Scale 1:31 680 - Accompanying Report by Davies (1952), Manitoba Mines Branch.

Preliminary Map 1972 F-1, Geological compilation map of the Bird River area (Geol), Scale 1:50 000, by D.L. Trueman, Manitoba Mines Branch.

Preliminary Map 1976 F-8, Pointe du Bois (Geol), Scale 1:50 000, by D.A. Janes, Manitoba Mines Branch.

Preliminary Map 1978 F-2, Pointe du Bois, west part (Geol), Scale 1:250 000, by D.A. Janes, Manitoba Mines Branch.

Map ER80-1-1, Cat Lake-Winnipeg River pegmatite field (Geol), Scale 1:100 000 - Accompanying Report by Cerny et al.(1981), Manitoba Mineral Resources Division.

Claim Map Series SE 5, 52L, Scale 1:31 680, Mining Recording, Manitoba Mines Branch.

REMARKS

1. "Three other parallel, westward dipping pegmatites are located in the region from 240 m west to 45 m east of the K-1 pegmatite......At least one of these contains rare beryl." (Bannatyne, 1985, p. 21).

Comp./Rev.		CC	PA
By Date	02-68	09-73	05-88

MANITOBA ENERGY AND MINES **MINERAL INVENTORY FILE NO.** 167

PRODUCT Lithium **N.T.S. AREA** 52L/5 NE **REF.** LI 1

NAME OF PROPERTY:
Tappy

OWNER OR OPERATOR AND ADDRESS
1988 - Open

OBJECT LOCATED: Centre of Tappy 2 **MINING DIVISION** Winnipeg

Lat. 50° 23.95' Long. 95° 40.95' **UNCERTAINTY:** 100 m

Sec. 1 Tp. 17 R. 13 EPM

DESCRIPTION OF DEPOSIT

The deposit is located in Archean metavolcanics and metasediments, i.e. greywacke, minor crystal tuff, pillow and flow lava and metamorphosed equivalents. It consists of lithium-bearing minerals (spodumene, lithium micas) in pegmatite. The pegmatite is surrounded by mostly quartzite, greywacke and some andesite. Pyrite and occasionally pyrrhotite are found in varying amounts through some sections of the core.

The pegmatite has a thickness of 3 - 3.4 m (10-11 ft) and contains about 15% spodumene. An area of 0.4 m (1.2 ft) in the center of the pegmatite has a higher concentration of spodumene, about 30%. The Li_2O content is about 0.7%. This is shown in DDH 1, 2, 3, 10. Lesser amounts of spodumene are present in DDH 4, 5, and 8. There are some traces of gold in DDH 7 (0.05 oz/ton (1.71 g/t)) and DDH 13 (0.02 oz/ton (0.69 g/t)).

The following information on two dykes in the area is from Bannatyne (1985): The No.1 dyke is exposed in 4 trenches over a length of 50 m, and reaches widths of up to 3.5 m. It continues for another 30 m north of the rock outcrop which is cut by joints that strike 350° and dip 35° S. It contains fine-grained aplite, fine-grained mica-rich rock, coarse-grained feldspar patches, and spodumene-rich patches (Bannatyne, 1985).

The No. 2 dyke strikes at 0°, dips 85° W and varies from 2 to 3.6 m in width. "It is exposed for 30 m...on the top of the ridge of metasediments and metavolcanics which strike 255° and dip vertically." "At the southern end, the dyke bifurcates into two narrow dykes". Joints in the dyke strike at 130°. In places, the dyke contains a fine-grained quartz + albite border zone, a coarse-grained K-feldspar (with minor muscovite) wall zone, and a medium- to coarse-grained spodumene + quartz core that contains clusters of coarse spodumene crystals, from 6 to 100 mm long, and up to 75 mm wide. Aplite also occurs in patches up to 2 m across in the centre of the dyke. Spodumene crystals are concentrated along the contacts with the aplite. Minor steel-grey curvilamellar lithian muscovite, apatite, cleavelandite, triphylite, and a green micaceous alteration are also present (Bannatyne, 1985).

Associated minerals or products of value
gold, pyrites, tantalum, tin, (apatite).

Mineral Inventory File No F

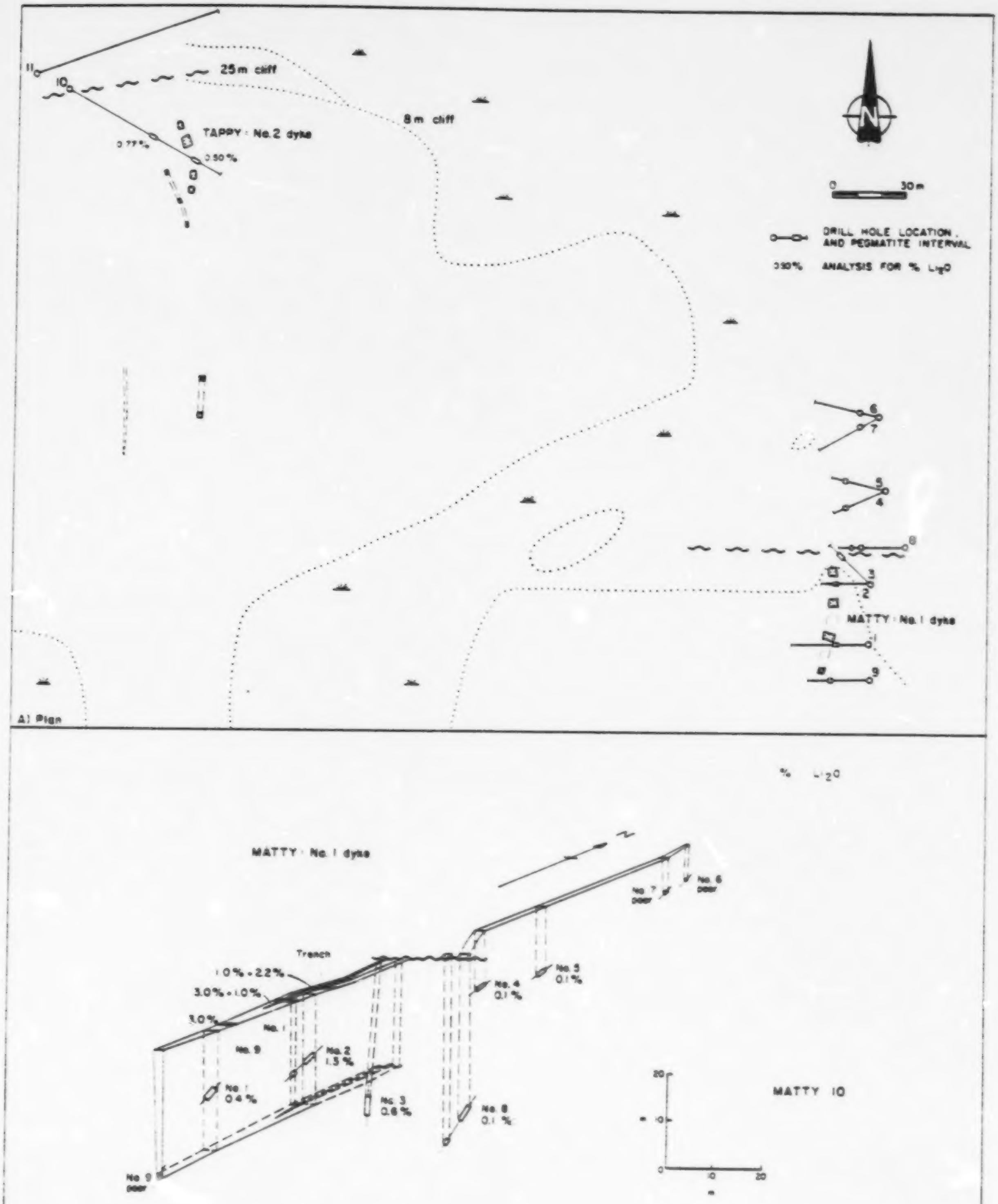

Figure 1: Matty and Tappy pegmatites: plan and drilling results (derived from data in ESS file 91092)
(Source: Bannatyne 1985: 40).

52L/5NE Li

HISTORY OF EXPLORATION AND DEVELOPMENT

The deposit is located about 1.21 km south and 0.8 km east of Bird River, and 1.61 km south of Provincial Road No. 315.

As the history of these claims was originally different, they will be subtitled "Tappy No.1", "Tappy No. 2", and "Matty No. 10". Where the history converges it will be subtitled "Combined History".

Tappy No. 1: This claim was originally divided into four claims, Taps No. 6, 7, 8 (W11352, 3, 4) staked by Peter Charney in 1943 and Paromac No. 1 (W10346) staked in 1941 by D. S. McLeod. Portions of the Tap 7 claim were previously held under A.P. (W9144) by Helen Alksne per John Alksne from 1938 to 1940. The Taps claims were cancelled in 1945. The area was restaked as Tappy No. 1 (W22957) by Fred Monkman in 1955. In 1956, a one year option agreement was in effect between Thomas Hill, Mortimer Lansberg, and "John Alksne et al."

Tappy No. 2: Tappy No. 2 was staked as Taps No. 7, 8 (W11353, 4) by Peter Charney in 1943. It was restaked as Tappy No. 2 (W22958) by Fred Monkman in 1955.

Matty No. 10: This claim was originally staked as part of Taps No. 8 (W11354) by Peter Charney in 1943 and Parmac No. 8 (W10975) by D. S. McLeod in 1942. It was restaked as Matty No. 10 (W23117) by F. Monkman in 1955.

Combined History: Work in the form of 6 pits, with a total of 161 m^3 (5686 cu ft) of rock, was done on Tappy No. 2 in 1956. Work was also done on Tappy No. 1. In 1956 Tappy No. 1 and 2 and Matty No. 10 were assigned to Thomas H. Hill and Mortimer Lansberg who assigned it to International Base Metals Ltd. NPL the next year.

The same year, a total of 31 m^3 (1100 cu ft) of overburden was taken from an area of 3.4 x 3.0 x 0.3 m (11 x 10 x 1 ft) on Tappy No. 1 (?) and a horizontal drill hole (ddh 10) was drilled in the vicinity of five pits in the No. 2 dyke area (see Remarks). The drill hole intersected two pegmatite intervals, one grading 0.7% Li_2O over 2 m, the other 0.5% over 3.5 m (Bannatyne, 1985). Three holes drilled along strike to the north, between the cliff and Provincial Road No. 315, intersected only stringers of pegmatite, 0.1 to 1.1 m wide (Bannatyne, 1985).

On Tappy No. 2 (?) overburden from an area of 49 x 4 x 0.3 m (160 x 12 x 1 ft) (1920 cu ft) was stripped and 4 holes (ddh 1 to 3, 9) were drilled in the vicinity of four trenches in the No. 1 dyke area (see Remarks). "The best intersection in the drilling was a grade of 1.3% Li_2O over a width of 3.1 m in hole #2" (Bannatyne, 1985). The northern extension of the dyke was explored by five drill-holes (ddh Nos. 4 to 8) (Non-confidential Assessment File No. 91092); low lithium contents (0.1 to 0.6% Li_2O) were reported in core assays (Bannatyne, 1985). Assay values of 1-3% Li_2O were reported for samples collected from trenches in the area (Non-confidential Assessment File No. 91092).

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

In 1959, an airborne EM Survey was done in the area by Canadian Nickel Company Limited, under Airborne Permit (AP) No. 26, using the INCO dual frequency (IP/OP) system (Non-confidential Assessment File No. 90008).

A rock trench of 1.8 x 2.7 x 1.8 m (6 x 9 x 6 ft) (324 cu ft) was dug on Matty No. 10 in 1959. A trench of 1.5 x 3.0 x 1.8 m (5 x 10 x 6 ft) (300 cu ft) was dug on Tappy No. 2 in the same year. Another trench was dug on Matty No. 10 the following year, of 2.4 x 2.7 x 1.8 m (8 x 9 x 6 ft) (432 cu ft). Two trenches of 4 x 2.4 x 1.2 m (12 x 8 x 4 ft) (384 cu ft) and 4 x 1.8 x 0.9 m (12 x 6 x 3 ft) (216 cu ft) were dug in 1962 on Tappy No. 2.

Tappy No. 1 was cancelled in 1960 and restaked as Luv 8 (W33697) and Luv 7 (W33696) by Walter Frank and assigned to Gordon McKeown the same year.

Tappy No. 2 and Matty No. 10 were cancelled in 1964 and restaked as part of Don No. 1 (W37910) by Robert Sellers in 1965 and Don No. 3 (W40840) by Donald Sellers in 1967.

A 95% interest in Don No. 1 was assigned to Donald Sellers in 1965. From 1965 to 1973 trenching was done on Don No. 1 with 78 m^3 (2760 cu ft) removed from 9 pits. On Don No. 3 a trench of 83 m^3 (2940 cu ft) was completed in 1970.

Airborne surveys done in the area in 1971-1974 are summarized as follows:

Year	Permit	Owner	Contractor	Survey/System	Assessment File
1971	AP93	H.B.E.D.	H.B.E.D.	Helicopter EM and radiometric	91686
1973	AP111	Imperial Oil Enterprises Limited	Sparton Aero Limited	AEM and AMAG; (Kenting Canso IP/OP)	91987
1974	AP116	Falconbridge Nickel Mines Limited	Aerodat Limited	AEM and AMAG (INCO dual frequency)	91564

The Luv 8, Luv 7, Don 1, and Don 3 claims were cancelled in 1977. The Luv 8 claim was immediately restaked as W45880 , area 11 ha, by Robert Sellers.

In 1979, a pit 1.8 x 1.2 x 0.9 m (6 x 4 x 3 ft) on claim W45880 was drilled and blasted (Non-confidential Assessment File No. 92764). That year, additional ground surrounding W45880 was staked as CB 9978 (Palm), area 79.3 ha, by Kevon Sellers (the ground included the former Luv 7 and Don 1 claim areas). Both properties were then optioned to Tantalum Mining Corporation of Canada Limited (Tanco) following a discovery of Ta-mineralization in the area from a 1979 sampling and assaying program.

In 1980, Robert Sellers obtained CB 9978 (Palm) and CB 11707 (Gush), area 91 ha, which included part of the old Don 3 claim area. CB 11707 (Gush) was later restaked as Casey 4 (W 46904), area 101 ha, in 1982.

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

In 1982, Tanco sampled pegmatite dykes in the area for tin and tantalum analyses, and did a bedrock lithogeochemical survey. Samples from the No. 1 dyke area returned assay values ranging from 0.003 to 0.071% Ta_2O_5, and from 0.009 to 0.128% SnO_2; No. 2 dyke samples indicated contents of up to 0.052% Ta_2O_5 and up to 0.046% SnO_2; dykes to the south of No. 2 returned assays of up to 0.045% Ta_2O_5 and 0.063% SnO_2 (Non-confidential Assessment File No. 92766). The lithogeochemical survey results indicated lithium anomalies over the No. 2 dyke area, and over the old Don No. 1 claim area, just east of the No. 1 dyke (Non-confidential Assessment File No. 92766).

Fred Sellers restaked CB 9978 (Palm) as Mack (W48922), area 184 ha, in 1983. Casey 4 (W46904) was cancelled in 1984.

In 1985, Robert Sellers reported that a trench 1.8 x 0.9 x 0.9 m (6 x 3 x 3 ft) on W45880 was drilled and blasted (Non-confidential Assessment File No. 92768).

The Mack (W48922) claim was cancelled in 1986; the W45880 claim was cancelled in 1987.

REFERENCES

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Cerny, P., Trueman, D.L., Ziehlke, D.V., Goad, B.E. and Paul, B.J., 1981, The Cat Lake-Winnipeg River and the Wekusko Lake pegmatite fields, Manitoba; Manitoba Department of Energy and Mines, Mineral Resources Division, Economic Geology Report ER80-1, p. 78-79, 101, +104, 105, 111, 116, 123, 152.

Cerny, P. and Turnock, A.C., 1971, Pegmatites of southeastern Manitoba; in Geoscience Studies in Manitoba, ed. A.C. Turnock; Geological Association of Canada, Special Paper No. 9, p. 119-127.

Davies, J.F., 1952, Geology of the Oiseau (Bird) River area; Province of Manitoba, Department of Mines and Natural Resources, Mines Branch, Publication 51-3, 24p.

REFERENCES cont'd

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Manitoba Mines Branch:
a Non-confidential Assessment Files; File No. 90008, +91092, 91564, 91686, 91987, 92764, +92766, 92768.

Mulligan, R., 1965, Geology of Canadian lithium deposits; Geological Survey of Canada, Economic Geology Report No. 21, p. 73.

Wright, J.F., 1932, Lac du Bonnet Sheet (with descriptive notes); Geological Survey of Canada, Map 275A.

MAP REFERENCES

*Map 52L/5, East, Pointe du Bois (Topo), Scale 1:50 000, Mines & Technical Surveys Canada.

Map 4070G, Pointe du Bois (Aeromag), Scale 1:63 360, Manitoba Mines Branch and Geological survey of Canada.

Map 36252G, Pointe du Bois (Airborne Gamma-ray Spectrometry), Scale 1:250 000, Geological Survey of Canada, Province of Manitoba, Province of Ontario (1976).

Map 96A, Wanipigow, Manigotagan and Oiseau rivers (Geol), Scale 1:253 440 - Accompanying Report by Moore (1913), Geological Survey of Canada.

Map 275A, Lac du Bonnet Sheet (Geol), Scale 1:63 360 - Accompanying Descriptive Notes by Wright (1932), Geological Survey of Canada.

Map 51-3, Bird River area (Geol), Scale 1:31 680 - Accompanying Report by Davies (1952), Manitoba Mines Branch.

Preliminary Map 1972 F-1, Geological compilation map of the Bird River area (Geol), Scale 1:50 000, by D.L. Trueman, Manitoba Mines Branch.

Preliminary Map 1978 F-2, Pointe du Bois, west part (Geol), Scale 1:250 000, by D.A. Janes, Manitoba Mines Branch.

Map ER80-1-1, Cat Lake-Winnipeg River pegmatite field (Geol), Scale 1:100 000 - Accompanying Report by Cerny et al.(1981), Manitoba Mineral Resources Division.

Map ER80-1-3, Winnipeg River pegmatite district (Structural Geol), Scale 1:50 000 - Accompanying Report by Cerny et al.(1981), Manitoba Mineral Resources Division.

Claim Map Series NE 5, 52L, Scale 1:31 680, Mining Recording, Manitoba Mines Branch.

NAME OF PROPERTY		**FILE NO.** 167
Tappy	**N.T.S. AREA** 52 L/5 NE	**REF.** LI 1

REMARKS:

1. Tappy No. 1 (?) may actually be Matty No. 1 (W23108) which was later staked as Luv No. 1 (W33690) in 1960 and included in CB 9978 in 1979; Tappy No. 2 (?) may be Tappy No. 1.

2. The No. 1 dyke occurs in the east part of W45880, according to Non-Confidential Assessment File No. 92766.

3. "Sicklerite" was found in spodumene-bearing pegmatites on the Matty claims (Cerny and Bristol, 1972).

4. Three partial chemical analyses of spodumene samples from the locality, indicated contents of up to 7.88 wt% Li_2O (Cerny et al., 1981, p. 104).

5. Three parallel pegmatites (less than 1 m wide), north of Provincial Road 315, in the north part of the old Luv 1 claim, returned assays of up to 0.9% Li_2O (Non-Confidential Assessment File No. 91092), up to 0.028% Ta_2O_5, and up to 0.062% SnO_2 (Non-Confidential Assessment File No. 92766).

6. A Be-Mo bearing pegmatite (the "Holy Bible" pegmatite) was reported southeast of this area (see: Davies (1952), Cerny and Turnock (1971), Cerny et al. (1981), Bannatyne (1985).

Comp./Rev.	CC	PA
By Date	09-73	05-88

MANITOBA ENERGY AND MINES **MINERAL INVENTORY FILE NO.** 174

PRODUCT Tin **N.T.S. AREA** 52L/5 NE **REF.** SN 1

NAME OF PROPERTY:
Crocodile

OWNER OR OPERATOR AND ADDRESS
1988 - Claim is being recorded

OBJECT LOCATED: Centre of claim **MINING DIVISION** Winnipeg

Lat. 50° 24.32' Long. 95° 33.02' **UNCERTAINTY:** 100 m

Sec. 1 L.S. 11, 12 Tp. 17 R. 14 EPM

DESCRIPTION OF DEPOSIT

The deposit is situated in two overlapping white pegmatite dykes on the north side of a low ridge of Archean andesitic breccia adjacent to a body of quartz monzonite, the Lac du Bonnet Pluton. The dykes strike about N90° E and dip 45-50° S, vary in width from 51 to 91 cm (20" to 3'), and are 5 m (15') apart. The upper and easterly dyke is 84 m (275') long and tapers at both ends. The lower and westerly dyke is 46 m (150') long and tapers at the east end. Both dykes consist of albite, and quartz with minor muscovite, cassiterite, beryl and garnet. Minor indicolite, molybdenite, and sphalerite are present in the lower dyke (Bateman, 1943, in Bannatyne, 1985).

HISTORY OF EXPLORATION AND DEVELOPMENT

The deposit is located about 2.4 km northwest of Shatford Lake, 3.2 km west of Sarap Lake and 2.4 km southeast of Provincial Road No. 315.

The deposit was staked as Crocodile (39365), area 19.95 ha (49.3 acres) by Carl Blum in 1925 and a year later 1/2 interest was assigned to Mike Barkus. According to Bateman (1943), the deposit was staked for the sulphide occurrences but in 1928 cassiterite was discovered on the claim.

In 1934 Carl Blum died and his interest in the property was placed in the estate of Carl Blum whose heirs resided in Latvia. Trenching and stripping on the property was continued by Mike Barkus, until 1938 when assessment work was reported on the Mink M.C. (W8429). In 1940 Mike Barkus assigned a quarter of his interest to Geo. H. Drawson and two years later, a 21-year lease M-1218 was issued to G.H. Drawson, M. Barkus, and the estate of Carl Blum.

In 1941 A.S. Dawson reported that the distribution of the cassiterite was somewhat erratic and it would be difficult to estimate average tin content by ordinary sampling procedures. He felt that the tin content was low.

Associated minerals or products of value
beryllium (molybdenum, zinc).

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

J.D. Bateman collected channel samples from the property in 1942. An assay of the upper and easterly dyke samples gave 0.08% Sn and that of the lower and westerly dyke 0.15% Sn.

In 1959, Canadian Nickel Company Limited did an airborne EM survey in the area under Airborne Permit (AP) No. 26 (Non-confidential Assessment File No. 90008).

In 1964 the claim was cancelled and restaked as Chemex No. 1 (W37780) by G.H. Drawson and then cancelled a year later.

In 1967 the claim was restaked as Tant No. 1 (W40486) by G. H. Drawson and a year later an option was taken by the Tantalum Mining Corporation of Canada Limited (Tanco) and August Kulikowski. The option was abandoned in 1969 and the claim was cancelled in 1970.

A helicopter EM and radiometric survey was flown in the area by Hudson Bay Exploration and Development Company Limited under AP No. 93 in 1971 (Non-confidential Assessment File No. 91686). Falconbridge Nickel Mines Limited did an airborne electromagnetic and magnetometer survey using the Aerodat (IP/OP) system, in the AP No. 116 area in 1974 (Non-confidential Assessment File No. 91564).

In 1979, Valley (CB 9637) covering 126.7 ha (313 ac) was staked by H. Nilsson (assisted by Stan Smith) for Tanco, which is owned by Hudson Bay Mining and Smelting Co., Limited (37.5%), Kawecki Berlyco Industries (37.5%), and the Manitoba Government (25%). The claim was cancelled in 1984. In 1988, the area was restaked under the Success (W52221) claim, and partly under the Alligator (W52220) claim. The claims are currently being recorded.

REFERENCES

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Dawson, A.S., 1941, Crocodile and Success mineral claims, Bird River area; Unpublished report in Non-confidential Assessment Files, Manitoba Mines Branch.

Manitoba Mines Branch:
a Mining Recording Files; Crocodile, File No. 2510.

b Non-confidential Assessment Files; File Nos. 90008, 91564, 91686.

c Unpublished Information Files.

Wright, J.F., 1926, Geology and mineral deposits of Oiseau (Bird) River map-area; Geological Survey of Canada, Summary Report 1924, Part B, p. 51-104.

Wright, J.F., 1932, Lac du Bonnet Sheet (with descriptive notes); Geological Survey of Canada, Map 275A.

MAP REFERENCES

*Map 52L/5, East, Pointe du Bois (Topo), Scale 1:50 000, Mines & Technical Surveys Canada.

Map 4070G, Pointe du Bois (Aeromag), Scale 1:63 360, Manitoba Mines Branch and Geological survey of Canada.

Map 36252G, Pointe du Bois (Airborne Gamma-ray Spectrometry), Scale 1:250 000, Geological Survey of Canada, Province of Manitoba, Province of Ontario (1976).

Map 275A, Lac du Bonnet Sheet (Geol), Scale 1:63 360 - Accompanying Descriptive Notes by Wright (1932), Geological Survey of Canada.

Map 51-3, Bird River area (Geol), Scale 1:31 680 - Accompanying Report by Davies (1952), Manitoba Mines Branch.

Preliminary Map 1972 F-1, Geological compilation map of the Bird River area (Geol), Scale 1:50 000, by D.L. Trueman, Manitoba Mines Branch.

Preliminary Map 1978 F-2, Pointe du Bois, west part (Geol), Scale 1:250 000, by D.A. Janes, Manitoba Mines Branch.

Map ER80-1-1, Cat Lake-Winnipeg River pegmatite field (Geol), Scale 1:100 000 - Accompanying Report by Cerny et al.(1981), Manitoba Mineral Resources Division.

NAME OF PROPERTY Crocodile

N.T.S. AREA 52 L/5 NE

FILE NO. 174
REF. SN 1

MAP REFERENCES cont'd

Map ER80-1-3, Winnipeg River pegmatite district (Structural Geol), Scale 1:50 000 - Accompanying Report by Cerny et al.(1981), Manitoba Mineral Resources Division.

Claim Map Series NE 5, 52L, Scale 1:31 680, Mining Recording, Manitoba Mines Branch.

REMARKS

The deposit is about 396 m (1300 ft) west of the Success deposit. See 52L/5 SN 2.

Comp./Rev.		JB	PA
By Date	02-68	08-73	05-88

MANITOBA ENERGY AND MINES **MINERAL INVENTORY FILE NO. 175**

PRODUCT Tin **N.T.S. AREA** 52L/5 NE **REF.** SN 2

NAME OF PROPERTY:
Success (Dinornis)

OWNER OR OPERATOR AND ADDRESS
1988 - Claims are being recorded

OBJECT LOCATED: Centre of claim **MINING DIVISION** Winnipeg

Lat. 50° 24.33' Long. 95° 32.75' UNCERTAINTY: 100 m

Sec. 1 L.S. 6 Tp. 17 R. 14 EPM

DESCRIPTION OF DEPOSIT

The deposit is situated in two arms of a westerly striking white pegmatite dyke separated by Archean andesitic breccia and which is near the contact with the quartz monzonite of the Lac du Bonnet Pluton. The arms dip away from each other at a low angle. The dyke is about 51 cm (20") thick and consists of quartz and albite with minor small beryl crystals. Cassiterite crystals up to 5 mm long have been noted (Bateman, 1942 in Bannatyne, 1985). The deposit is about 396 m (1300 ft) east of the Crocodile deposit. See 52L/5 SN 1.

HISTORY OF EXPLORATION AND DEVELOPMENT

The deposit is located about 2 km northwest of Shatford Lake, 2.8 km west of Sarap Lake and 2.4 km southeast of Provincial Road No. 315.

The deposit was staked as Dinornis (39231), area 19.95 ha (49.3 ac) by Carl Blum in 1925. According to Bateman (1943), the deposit was staked for the sulphide occurrences but in 1928 cassiterite was discovered on the claim. The claim was cancelled in 1937 after the death of Carl Blum.

In 1940 L.K. Drawson restaked the deposit as Success (W9883). A.S. Dawson visited the property in 1941 but did not find any cassiterite; however he did note that the beryl content, although low is somewhat higher than that on the Crocodile claim (see 52L/5 SN 1). J.D. Bateman located cassiterite crystals, up to 5 mm (1/5") long, on the property in 1942. In 1946 the claim was cancelled and restaked 10 years later as Owl No. 3 (W24800) by Mrs. L. Drawson.

In 1959, Canadian Nickel Company Limited did an airborne EM survey in the area under Airborne Permit (AP) No. 26 (Non-confidential Assessment File No. 90008). In 1959 and 1960 Mrs. L. Drawson restaked the deposit as Owl No. 3 (W32083 and W33592, respectively). G.H. Drawson restaked the property as Chemex No. 2 (W37781) in 1964. A year later the property was cancelled.

Associated minerals or products of value
beryllium.

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

In 1967 the claim was restaked as Tant No. 2 (W40486) by G.H. Drawson and a year later an option was taken by the Tantalum Mining Corporation of Canada Limited (Tanco) and August Kulikowski. The option was abandoned in 1969 and the claim was cancelled in 1970.

A helicopter EM and radiometric survey was flown in the area by Hudson Bay Exploration and Development Company Limited under AP No. 93 in 1971 (Non-confidential Assessment File No. 91686). An airborne electromagnetic and magnetometer survey was flown by Falconbridge Nickel Mines Limited using the Aerodat (IP/OP) system, in the AP No. 116 area in 1974.

In 1979, Valley (CB9637) covering 126.7 ha (313 ac) was staked by H. Nilsson (assisted by Stan Smith) for Tanco, which was owned by Hudson Bay Mining and Smelting Co., Limited (37.5%), Kawecki Berylco Industries (37.5%) and the Manitoba Government (25%). The claim was cancelled in 1984.

In 1988, the area was restaked under the Success (W52221) claim, and partly under the Crocodile (W52219) claim. The claims are currently being recorded.

REFERENCES

Bannatyne, B.B., 1985, Industrial minerals in rare-element pegmatites of Manitoba; Manitoba Energy and Mines, Geological Services, Economic Geology Report ER84-1, p. 39.

Bateman, J.D., 1943, Tin in Manitoba; Canadian Mining Journal, v. 64, p. 274-276.

Cerny, P., Trueman, D.L., Ziehlke, D.V., Goad, B.E. and Paul, B.J., 1981, The Cat Lake-Winnipeg River and the Wekusko Lake pegmatite fields, Manitoba; Manitoba Department of Energy and Mines, Mineral Resources Division, Economic Geology Report ER80-1, 216p.

Davies, J.F., 1952, Geology of the Oiseau (Bird) River area; Province of Manitoba, Department of Mines and Natural Resources, Mines Branch, Publication 51-3, p. 23.

Dawson, A.S., 1941, Crocodile and Success mineral claims, Bird River area; Unpublished report in Non-confidential Assessment Files, Manitoba Mines Branch.

Manitoba Mines Branch:
a Mining Recording Files; Dinornis, File No. 2440.

b Non-confidential Assessment Files; File Nos. 90008, 91564, 91686.

c Unpublished Information Files.

REFERENCES cont'd

Wright, J.F., 1926, Geology and mineral deposits of Oiseau (Bird) River map-area; Geological Survey of Canada, Summary Report 1924, Part B, p. 51-104.

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MAP REFERENCES

*Map 52L/5, East, Pointe du Bois (Topo), Scale 1:50 000, Mines & Technical Surveys Canada.

Map 4070G, Pointe du Bois (Aeromag), Scale 1:63 360, Manitoba Mines Branch and Geological survey of Canada.

Map 36252G, Pointe du Bois (Airborne Gamma-ray Spectrometry), Scale 1:250 000, Geological Survey of Canada, Province of Manitoba, Province of Ontario (1976).

Map 275A, Lac du Bonnet Sheet (Geol), Scale 1:63 360 - Accompanying Descriptive Notes by Wright (1932), Geological Survey of Canada.

Map 51-3, Bird River area (Geol), Scale 1:31 680 - Accompanying Report by Davies (1952), Manitoba Mines Branch.

Preliminary Map 1972 F-1, Geological compilation map of the Bird River area (Geol), Scale 1:50 000, by D.L. Trueman, Manitoba Mines Branch.

Preliminary Map 1978 F-2, Pointe du Bois, west part (Geol), Scale 1:250 000, by D.A. Janes, Manitoba Mines Branch.

Map ER80-1-1, Cat Lake-Winnipeg River pegmatite field (Geol), Scale 1:100 000 - Accompanying Report by Cerny et al.(1981), Manitoba Mineral Resources Division.

Map ER80-1-3, Winnipeg River pegmatite district (Structural Geol), Scale 1:50 000 - Accompanying Report by Cerny et al.(1981), Manitoba Mineral Resources Division.

Claim Map Series NE 5, 52L, Scale 1:31 680, Mining Recording, Manitoba Mines Branch.

Comp./Rev.		JB	PA
By Date	02-68	08-73	05-88

MANITOBA ENERGY AND MINES **MINERAL INVENTORY FILE NO. 178**

PRODUCT Beryllium **N.T.S. AREA** 52L/6 SW **REF.** BE 3

NAME OF PROPERTY:
Huron

OWNER OR OPERATOR AND ADDRESS
1988 - Open

OBJECT LOCATED: Centre of claim **MINING DIVISION** Winnipeg

Lat. 50° 20.8' Long. 95° 20.7' **UNCERTAINTY:** 100 m

Sec. 16 Tp. 16 R. 16 EPM

DESCRIPTION OF DEPOSIT

The deposit is situated in a pegmatite which has intruded into Precambrian metavolcanics of the Rice Lake Group. It is hosted within metagabbroic rocks of the Lamprey Falls Formation (Paul and Cerny, 1984). A late hydrothermal Ca-metasomatism is widespread in the pegmatite (Cerny and Turnock, 1971a).

The pegmatite outcrops on the vertical face of small cliffs on either side (43 m apart) of a swamp, and is a gently dipping anticlinal-shaped body with dips of 10° or less to the north and south. Its exposed length is 122 m (400 ft) and thickness, 3 m (10 ft). According to Paul and Cerny (1984, p. 86), the "thin, sub-horizontal, tabular body....is approximately 100 m long and 45 m wide, and has a maximum thickness of 3.9 m" (Figures 1 and 2).

Very large crystals of pink and flesh-coloured albite with a few large patches of white quartz make up its bulk. The pegmatite is crudely zoned, "with discontinuous units of garnetiferous aplite and graphic pegmatite (albite plus quartz) along its margins, units of medium- to coarse-grained albite and blocky microcline-perthite in its interior, and a segmented quartz core" (Paul and Cerny, 1984, p. 86). The central part contains most of the accessory minerals (Cerny and Turnock, 1971a).

"The mineral paragenesis of the pegmatite consists of microcline-perthite, oligoclase, albite, quartz, muscovite, biotite, two types of chlorite, epidote, garnet, topaz, beryl, titanite, zircon, thorite, uraninite, magnetite, niobian rutile, fersmite, euxenite (?), columbite-tantalite, microlite, apatite, monazite, bavenite, bityite, bertrandite, chalcopyrite, pyrite, uranophane-sklodowskite, nontronite, mixed-layer montmorillonite-illite, Fe-hydroxide minerals, and an unknown Ca, Nb, Ta-bearing phase" (Paul and Cerny, 1984, p. 86). Clinozoisite, sphene are also present (Cerny and Turnock, 1971a). Tantalite-columbite has been known to occur as lath-shaped crystals up to 7 cm x 3 mm, and as triangular patches, in association with red iron oxide (Bannatyne, 1985). Thin veinlets of ilmenite were noted near the Huron claim (Cerny et al., 1981).

Associated minerals or products of value
tantalum, uranium, feldspar, topaz, columbium, lithium,
tungsten, tin, rubidium, zircon, yttrium, cesium.

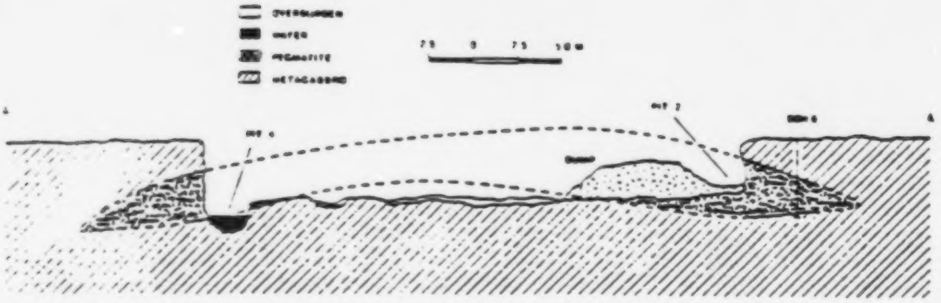

Figure 1: Cross section of the Huron Claim pegmatite. (source: Paul & Cerny 1984:87

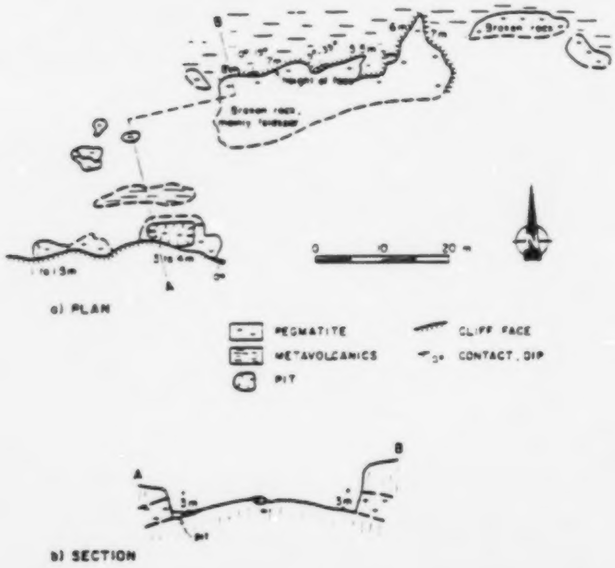

Figure 2 : *Diagrammatic plan and section, main exposure of Huron pegmatite.* (Source: Bannatyne, 1985:25)

DESCRIPTION OF DEPOSIT cont'd

Green and yellowish green beryl occurs only along the crest of the anticline, over a 3 x 12 m (10 by 40 ft) area. An association of pale green beryl with a quartz lens and with tantalite-columbite was previously reported in this area. "A concentration of small green beryl crystals, from 5 to 10 cm long and 12 mm in diameter were reported by McCartney (1930) along with masses of beryl over 25 cm across." (Bannatyne, 1985, p. 25). The deposit is too small to be of commercial significance (Paul and Cerny, 1984).

HISTORY OF EXPLORATION AND DEVELOPMENT

The deposit is located 0.8 km northwest of Greer Lake, 1.6 km southwest of the Winnipeg River, and 9.65 km south of Provincial Road No. 315.

In 1925, the deposit was staked as the Huron (38509) by W. J. Davidson and a few test pits dug. Beryl was discovered in 1925 (Davies, 1957). By 1927 the claim was assigned to Harry W. Spencer of the Belmont Mining Syndicate. In 1928 the syndicate reorganized to form Warner Lake Mines Limited, and a year later the claim was assigned to the latter. Test pitting was continued.

In 1930 the property was acquired by Winnipeg River Tin Mines Limited, although it was not assigned until 1938. In 1930 DeLury reported that beryl is present in either a massive or crystalline form. He also stated that tantalite, monazite and pitchblende are also present. Winnipeg River Tin in 1967 was renamed Spacemaster Minerals Ltd.

The showing consisted of two pits 49 m (160 ft) apart, "the main pit shows 24 feet (7.3 m) of massive beryl and the second pit.....twenty feet (6 m) of the same massive beryl". Dr. T. L. Walker (University of Toronto) and W. P. Jacob of Beryllium Development Corporation of America inspected the property; it was noted that the beryl deposit had been opened up over a width of 15 m (50 ft) and a length of more than 30 m (100 ft) (Newspaper clipping, 1930). It was estimated "that one or two carloads of beryl could be shipped immediately" (Newspaper Article, August 28, 1930).

It was reported that tantalite occurs "in considerable quantities for over 20 feet (6 m) in the feldspar, and is also noticeable in an outcropping 150 feet (46 m) distant" (Manitoba Miner, May 15, 1930). A sample weighing 9.07 kg (20 lbs) was obtained from 90.7 kg (200 lbs) of ore collected from a number of outcrops over a length of 107 m (350 ft). The sample was sent to the Department of Mines, Ottawa, for analysis. The result of this analysis, indicating a high grade tantalum ore, is shown in Table 1.

It was reported that Winnipeg River Tin Mines Limited removed small amounts of beryl (Paul, 1976) and produced 227 kg (500 lbs) of columbite concentrate from the deposit in 1930 (Davies, 1957). In addition, about 545 tonnes of feldspar from the Huron claim were shipped to the Winnipeg Roofing Company, St. Boniface, in 1930 for use as stucco dash and for poultry grit" (Bannatyne, 1985, p. 25).

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

Table 1. Sample analysis, Huron claim pegmatite
(source: Newspaper Article, October 30, 1930).

Tantalum	Ta_2O_5	71.01%
Columbium	Nb_2O_5	4.60
Iron	Fe_2O_3	14.32
Manganese	MnO	2.25
Calcium	CaO	2.00
Aluminium	Al_2O_3	1.67
Silica	SiO_2	1.40
Magnesium	MgO	1.32
Tungsten	WO_3	0.69
Titanium	TiO_2	0.24
	Ignition loss	0.80
Total		100.30

TABLE 2. Analysis of Uraninite samples, Huron claim
(source: Ellsworth, 1932, p. 268, 269)

	L[1]	LI[2]
PbO	16.63	16.71
UO_2	-	-
UO_3	-	-
U_3O_8	63.08	64.86
ThO_2	14.18	13.94
$(Ce, La, Di)_2O_3$	0.37	0.28
$(Yt, Er)_2O_3$	1.02	1.19
Fe_2O_3	0.64	0.75
MnO	0.18	0.13
BeO	-	-
Al_2O_3	0.10	0.12
CaO	1.45	1.72
MgO	0.07	0.06
CuO	-	-
SiO_2	0.67	0.37
H_2O	-	-
H_2O (-110°)	-	-
H_2O (+110°)	-	-
He	-	-
ZrO_2	-	-
Bi, Tl	1	1
$CO_2P_2O_5$	-	-
K_2O; Na_2O	-	-
Insol	0.12	0.00
F_2	-	-
Specific gravity	8.082	8.968

[1] Uranitite, heavy fraction of water concentrate.
[2] Uraninite, acid treated concentrate.

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

A sample of 'columbite' from the Huron claim, analyzed by V.J. Oswald, indicated: 14.77% FeO, 2.17% MnO, 2.66% CaO, 0.45% MgO, 52.26% Nb_2O_5, 26.41% Ta_2O_5, 0.49% TiO_2, 0.65% ZrO_2, 0.21% H_2O (total 100.20, specific gravity 5.87) (Walker, 1931 in Ellsworth, 1932, p. 270). Topaz, monazite, triphylite, and uraninite were noted in the deposit (Walker, 1931). A chemical analysis of triphylite from the Huron claim by V.J. Oswald indicated 21.13% MnO, 21.70% FeO, 0.65% CaO, 0.23% MgO, 0.12% Na_2O, 0.44% K_2O, 8.36% Li_2O, 46.41% P_2O_5, 0.99% H_2O, 0.20% (insoluble) (Total 100.23, specific gravity 3.482) (Walker, 1931 in Ellsworth, 1932, p. 270). Uraninite samples indicated ThO_2 substitutions of 14-28 wt% (Delury and Ellsworth, 1931 in Cerny et al., 1981, p. 116). Chemical analyses of uraninite samples from the property reported by Ellsworth (1932) are listed in Table 2.

In 1933 the Northern Miner reported that the "Huron" deposit of massive chryso-beryl carries approximately 17% BeO. Contents of 8.5 wt% SiO_2 and 14.42 wt% ThO_2 were indicated in the Huron claim monazite (Hecht and Kroupa, 1936 in Cerny and Puchelt, 1976).

In 1941, A.O. Nier made radioactive age determinations, using the lead isotope method, on uraninite crystals from the Huron pegmatite. An age of about 2500 million years is indicated. Bannatyne (1985, p. 25) reports "the dyke received international prominence following reports by Delury and Ellsworth (1931), and Nier et al.(1941) that an age determination by the lead isotope method on uraninite and monazite crystals from the Huron pegmatite indicated an age of 2200 to 2570 million years. This latter date was cited in geological and scientific literature for many years as the oldest age determination then known".

Work was reported on the property until 1948 when a 21 year lease M-2025 was issued to Winnipeg River Tin Mines Limited. Two of the larger pits and trenches reported are 9 x 1.8 x 2 m (30 x 6 x 8 ft) and 5 x 29 x 2 m (15 x 95 x 7 ft).

In 1949, Hollinger Consolidated Gold Mines, Limited, took a year's option on the property and performed some exploration work, and then dropped the option.

The property was optioned to John Dryborough of Winnipeg (Newmont interests) in 1954. The nature of the work done is unknown.

In 1956 the property was assigned to Dalhart Minerals Corporation Limited. This company, in 1957, changed its name to Dalhart Beryllium Mines & Metals Corporation Limited. From 1956 to 1958, Dalhart explored the area for beryllium: mapping, trenching, bulk-sampling and diamond-drilling was reported to have been done (Non-Confidential Assessment File Nos. 92715, 92363). A dyke on the property with an exposed length of 119 m (390 ft) and an estimated width of 1.5 - 1.8 m (5-6 ft) was bulk-sampled in 1957: the results indicated a tonnage of 86 tonnes (95 tons) at 2.37% beryl for this zone (Non-Confidential Assessment File No. 92363). "Some of the pegmatite

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

material was processed for beryl in the Dalhart mill south of Greer Lake in 1957." (Bannatyne, 1985, p. 25). In the summer of 1958, geological mapping of the property was done at a scale of 1:2400 (Non-Confidential Assessment File No. 92363).

In 1959, Canadian Nickel Company Limited did an airborne EM survey using the INCO dual frequency IP/OP system, under Airborne Permit No. 26 (Non-Confidential Assessment File No. 90008).

In 1960, through an agreement with Canol Metal Mines Limited, the property was acquired by Canhart Mines Limited. That year, two diamond drill holes 77 m and 61 m (251 and 201 ft) in length were put down at 65° and 90° inclinations, respectively (Non-Confidential Assessment File No. 92364).

Canhart Mines Limited (Inc. May, 1960), formed by Canol Metal Mines Limited (Inc. September, 1958), had apparently acquired Dalhart Beryllium Mines & Metals Corporation Limited.

In 1969 the property was assigned to Tanlith Mines Limited and the lease renewed for an additional 21 year period. Northern Goldfields Exploration Limited (Canadian subsidiary of The Goldfield Corporation of New York) in a 60/40 arrangement with Canhart Mines Limited, had formed Tanlith Mines Limited (Northern Miner, January 18, 1968).

In 1971, Hudson Bay Exploration and Development Company Limited did a helicopter EM and radiometric survey over the area under Airborne Permit No. 93, and some anomalies were detected in the survey area (Non-Confidential Assessment File No. 91686).

Chemical analyses of pseudo-ixiolite from the Huron dyke reported by Cerny and Turnock (1971b, p. 761, 763) are listed below:

SAMPLE	HC-2	HC-1
FeO	16.4	13.0
MnO	4.5	3.8
Nb_2O_5	42.5	47.5
Ta_2O_5	37.3	29.5
TiO_2	0.18	0.2
SnO_2	0.0	0.0
CaO	-	1.42
TOTAL	100.88	95.42
Specific gravity	6.08	5.82

Analyst: K. Ramlal, 1970.

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

Columbite-tantalite was reported to form lath-shaped crystals up to 10 cm long (Cerny and Turnock, 1971b), and microcline-perthite was reported to contain 0.3 - 0.8% Rb_2O (Cerny and Turnock, 1971a).

From 1976 to 1977, the area was explored for tantalum by Tantalum Mining Corporation of Canada Limited (Tanco), also 60% controlled by Northern Goldfields; mapping, prospecting, trenching, blasting and limited diamond-drilling was done on several claims (Non-Confidential Assessment File Nos. 92715, 92362, 92361).

In 1976, it was reported that samples of columbite-tantalite from the 'Upper Huron' assayed 29.82% Ta_2O_5, 50.24% Cb_2O_5, 0.201% SnO_2, 0.22% TiO_2. Mica samples from the 'Upper Huron' returned 1.13% Rb_2O, 0.06% Li_2O, 0.012% Ga, while mica from the 'Lower Huron' contained 0.99% Rb_2O, 0.25% Li_2O, 0.02% Ga (Non-Confidential Assessment File No. 92362).

In 1977, five shallow drill-holes varying from 5 m (15 ft) to 32 m (104 ft) in depth were drilled mainly along the edges of the pegmatite outcrop area. The total drilling footage was 129 m (423 ft). Four of the five holes intersected less than 0.6 m (2 ft) of pegmatite, while the fifth hole reported a 2 m (6.4 ft) intersection of pegmatite. The drilling indicated that "the body shoals upward on the northwest and southwest corners, thins and disappears". It was recommended that the claims should be dropped (Non-Confidential Assessment File No. 92361).

Lease M-2025 was cancelled on August 11, 1980. On December 1, 1980, Wimp 1 (CB 12118) (see: 52L/6 LI 1, LI 3, LI 4) covering 183 ha was staked by H.S. Nilsson assisted by H. Larsen and S. Smith for Tanco, which is owned by Hudson Bay Mining and Smelting Co., Limited (37.5%), Kawecki Berylco Industries (37.5%) and the Manitoba Government. Part of the old Huron claim fell under 182 ha Wimp 3 (CB 12758) which was held by Tanco from December 8, 1980 to February 6, 1987.

In 1981, Tanco carried out a reconnaissance lithogeochemical survey over the Wimp claim group, and a number of lithia anomalies were outlined (Non-Confidential Assessment File No. 92715).

Chemical analyses of various minerals of the pegmatite have been done at the University of Manitoba. Four samples of fersmite averaged 59.6 wt% Nb_2O_5, 23.8 wt% Ta_2O_5; three samples of partly disordered ferrocolumbite returned contents (in wt%) of up to 70.9% Nb_2O_5, 55.8% Ta_2O_5, and 17.3% Fe; and one sample of niobian rutile contained 65.9 wt% TiO_2, 20.7% Nb_2O_5, 9.1% FeO (Cerny et al., 1981, p. 121).

Other analyses indicated titanite (in vuggy albite and quartz) with contents of 6.5 wt% Nb_2O_5 and 10.2 wt% combined $(Nb, Ta)_2O_5$ (Paul, 1981); thorite (occurring as black or dark brown rounded grains with pyrite inclusions) with 3.2-6.0 wt% P_2O_5, up to 17 wt% UO_2, 2-15 wt% Fe_2O_3, total REE 1-4 wt% (Cerny et al., 1981, p. 116).

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

Fractionation studies of the pegmatite indicate that "Potassium feldspar has K/Rb 45-10 and Cs 8-83 ppm. Muscovite shows K/Rb 7-6.4 and Cs 240-320 ppm. Garnet has 22-38 wt% of the spessartine component. Beryl shows Na/Li between 12.3 and 6.2, and Cs in the 300-880 ppm range. Columbite-tantalite is predominantly represented by ferrocolumbite, with Mn/(Mn+Fe) 0.07-0.47 and Ta/(Nb+Ta) 0.03-0.56 (atomic ratios)." (Paul and Cerny, 1984).

Wimp 1 (CB 12118) was cancelled on March 9, 1984. The western portion of the old Huron claim was included in the 36 ha Silverleaf (W 49395) claim (See: 52 L/6 LI 1, LI 3 and LI 4) which was staked by William C. Hood (assisted by J.D. Berry) on July 25, 1984. The claim was recorded August 22, 1984, and cancelled October 21, 1986.

In 1986, W.C. Hood Geological Consulting carried out lithogeochemical surveys on the Wimp 3 claim for Tanco. 117 samples, each 0.5 kg in size, were collected over a wide area and analyzed for lithium. The anomalies reported in the 1981 survey were not reproduced except for one "intense lithia feature" which appears to be located just east of the Huron claim, about 350 m northwest of Greer Lake. It was recommended that the claim should be dropped (Non-Confidential Assessment File No. 92715). Wimp 3 was cancelled on February 6, 1987.

HISTORY OF PRODUCTION

Year	Quantity	Material Produced
1930	227 kg	Concentrated tantalite
	545 tonnes	Feldspar*
	?	Beryl

*Shipped to Winnipeg Roofing Company, St. Boniface, Winnipeg.

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b Corporation Files; Winnipeg River Tin Mines Limited.

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*Map 52L/6, West, Ryerson Lake (Topo), Scale 1:50 000, Mines & Technical Surveys, Canada.

Map 1194 G, Ryerson Lake (Aeromag), Scale 1:63 360, Manitoba Mines Branch and Geological Survey of Canada.

Map 49-7, Cat Lake-Winnipeg River area (Geol), Scale 1:63 360 - Accompanying Report by Springer (1950), Manitoba Mines Branch.

#Map 56-1a, Shatford Lake-Winnipeg River area (Geol), Scale 1:12 000 - Accompanying Report by Davies (1957), Manitoba Mines Branch.

Map (Geol), Scale 1:2400, by Dalhart Beryllium Mines & Metals Corporation Limited; in Non-confidential Assessment File No. 92363, Manitoba Mines Branch (1958).

Preliminary Map 1972 F-1, Bird River area (Geol), Scale 1:50 000, by D.L. Trueman, Manitoba Mines Branch.

Preliminary Map 1975 F-9, Bird River E. (Geol), Scale 1:31 680, by D.L. Trueman, Manitoba Mines Branch.

Map (Geol), Scale 1:2400, by Tantalum Mining Corporation of Canada Limited; in Non-confidential Assessment File No. 92362, Manitoba Mines Branch (1976).

Map ER80-1-1, Cat Lake-Winnipeg River pegmatite field (Geol), Scale 1:100 000 - Accompanying Report by Cerny et al.(1981), Manitoba Mineral Resources Division.

Map ER80-1-3, Winnipeg River pegmatite district (Structural Geology), Scale 1:50 000 - Accompanying Report by Cerny et al.(1981), Manitoba Mineral Resources Division.

Map (unpublished), Huron M.C. (38509), Lot 186, Group 74, Plan 3697, (Survey, 1937), Scale 1:2400, Mining Recording, Manitoba Mines Branch.

Claim Map Series SW 6, 52L, Scale 1:31 680, circa 1974, Mining Recording, Manitoba Mines Branch.

REMARKS:

The deposit is shown as "Mineral Deposit No. 13" on Map 49-7, and by the symbol "Be" on "Huron 186" on Map 56-1a.

Comp./Rev.		JB	CFL	PA
By Date	6-68	9-73	11-78	04-88

PRODUCT Beryllium **N.T.S. AREA** 52L/6 NW **REF.** BE 4

NAME OF PROPERTY:
Dyke No. 5
(Shatford Lake pegmatites)

OWNER OR OPERATOR AND ADDRESS
1988-Mr. S.J. Lesavage
150 Robindale Road
Winnipeg, Manitoba
R3R 1G7

OBJECT LOCATED: Centre of Dyke No. 5 **MINING DIVISION** Winnipeg

Lat. 50° 23.5' Long. 95° 29.2' **UNCERTAINTY:** 500 m

Sec. 32, 33, 34 Tp. 16 R. 15 EPM

DESCRIPTION OF DEPOSIT

The dykes intrude Archean metavolcanics, mostly basalt and andesites, of the Rice Lake Series, and granites. The dykes are exposed intermittently over a length of 490 m. "It is uncertain whether the dykes are discrete bodies or parts of one or two large dykes" (Bannatyne, 1985, p. 35).

Pegmatites on the Dyke 5 claim intrude the Lac du Bonnet biotite quartz monzonite pluton. One dyke outcrops "over a length of 45 m up the slope of a granitic rock ridge. The dyke has a width of 1.8 m, has a fine-grained border phase, and consists mainly of very coarse grained quartz and perthite. Beryl crystals, from 12 to 50 mm across, are present, and occur in clusters, usually abundant where masses of quartz occur. One crystal has a transparent pale yellowish colour; an altered crystal of topaz, some micaceous patches, and one small black tantalum mineral also were noted" (Bannatyne, 1985, p. 37). A second dyke, 7.5 m to the northwest, reportedly contains zinnwaldite and gem quality brownish-yellow topaz.

The Dyke 13 claim area is underlain by at least seven outcrops of pegmatite that intrude metavolcanics of the Lamprey Falls Formation (see Fig. 1). The dykes generally consist mainly of feldspars. Large crystals of pink to buff albite; pink to red massive perthite; and masses of quartz (up to 3 x 4 m), were reported (Bannatyne, 1985). Beryl has been reported in five outcrops (A, C, E, F, H; Fig. 1).

Beryl in shades of pale white to brown, pale green, and golden was reported in outcrop A. In outcrop H, "light green beryl crystals, up to 25 mm across and 9 cm long, are concentrated along or near the contact with the wall rock"; in outcrop F, a giant greenish beryl crystal, 72 cm long and 37-100 mm wide, was noted (Bannatyne, 1985).

Dyke C (Fig. 1) strikes east-west and dips 60-80° N. It contains besides beryl "large masses of zinnwaldite (up to 1.2 m).....yellowish, low-grade lithia mica, patches of monazite (up to 20 x 25 cm), crystals of columbite,

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Associated minerals or products of value
lithium, columbium, topaz, monazite, feldspar
quartz, tantalum, fluorite, apatite.

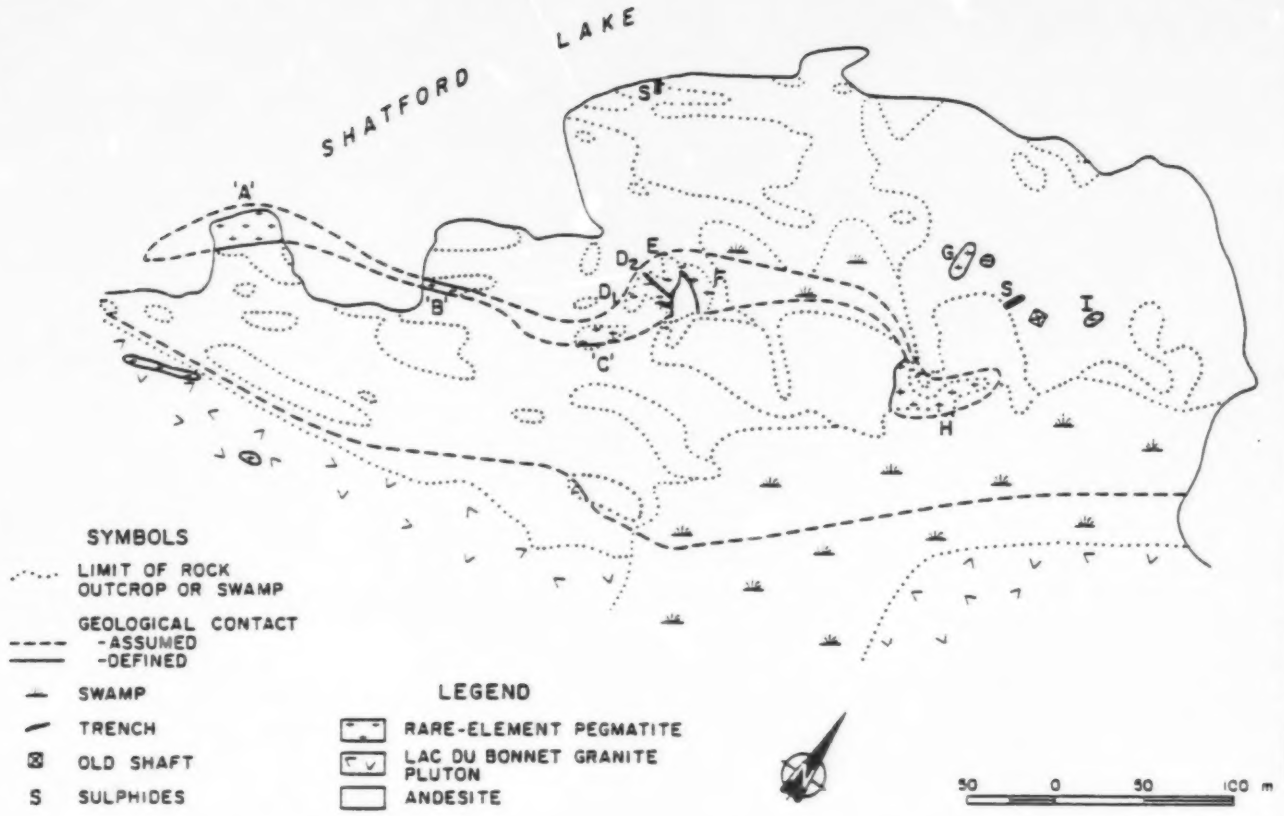

Figure 1 Geology of Contact Minerals Limited pegmatite, from Gass (1957), showing locations A to I.

(Source. Bannatyne, 1985).

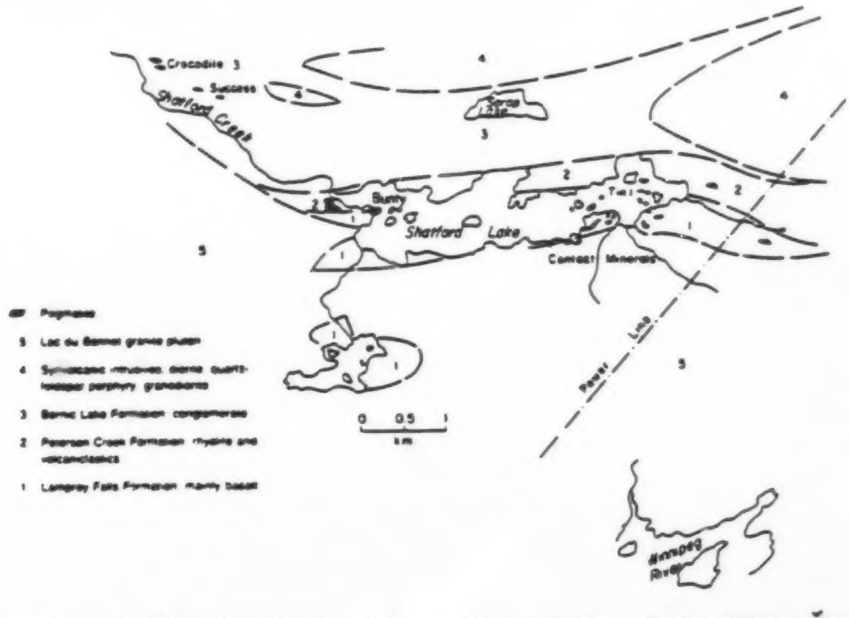
Crocodile
Success
Shatford Creek
Birse Lake
Buck
Shatford Lake
Tanco
Contact Minerals
Power Line
Winnipeg River
1
2
3
4
5
Pegmatite
5 Lac du Bonnet granite pluton
4 Synvolcanic intrusives: diorite, quartz-feldspar porphyry, granodiorite
3 Bernic Lake Formation: conglomerate
2 Peterson Creek Formation: rhyolite and volcaniclastics
1 Lamprey Falls Formation: mainly basalt
0 0.5 1
km

Figure 2. Regional geology and rare-element pegmatites, Shatford Lake: adapted from Davies (1957) and Černý et al. (1981).

(Source. Bannatyne, 1985).

DESCRIPTION OF DEPOSIT cont'd

grains of fluorite, blebs of euxenite-polycrase, a few crystals of pyrite and stibnite, and several large crystals of completely altered topaz" (Davies, 1957). Some of these minerals have been noted in the other dykes. In outcrop A, a dark Li-muscovite occurs as "blades 2.5 x 15 cm, and also as continuous sheets along several fractures" (Bannatyne, 1985).

HISTORY OF EXPLORATION AND DEVELOPMENT

There are several occurrences of beryllium in pegmatite dykes in the Shatford Lake area. The dykes are located on the old Dyke No. 5, 13 claims, on the south shore of Shatford Lake where they outcrop over an area extending 457 to 914 m (1500 ft to 3000 ft) southwest of the shaft on Tin Island (see: 52 L/6 SN 1).

Dyke 5 claim: This deposit was originally staked as part of Acme M.C. (44577) by Peter Osis and Shatford No. 1 (9862) by Hazel M. Harding in 1928. Acme was assigned to T.J. Flynn and later Manitoba Tin Company Limited that year. A total of 3 m^3 (114 cu ft) of rock was removed from 2 pits on Acme in 1930. An unknown amount of work was performed on Shatford No. 1. Both claims were cancelled in 1930.

Aspen M.C. (W227) is a restaking of Acme by T.J. Flynn in 1931. It was assigned to H.G.-G.W. Benz that year. From 1932-34 at least 29 m^3 (1036 cu ft) of rock was blasted from 2 pits. Part of the deposit was restaked as Beaver Nos. 4, 7 (W9552, 3) by Marcel Pain and assigned to Geo. Whitesides in 1939. In 1937 Sigurborg Miller staked the rest of the deposit for K.E. Miller as Milson M.C. and Milson No. 1 (W8431, 2) and assigned these claims to Lucy K. Drawson. In 1938-39 about 33 m^3 (1150 cu ft) of rock was removed from these claims. Milson No. 1 was restaked as Bernic No. 16 (W10578) by J.B. Montgomery in 1942 and Gem No. 2 (W12870) by G.H. Drawson in 1944. Milson M.C. was restaked Gem M.C. (W10147) by G.H. Drawson in 1940 and 12 m^3 (420 cu ft) of rock was trenched in 1940-41.

The southernmost part of the deposit was staked as Frank Nos. 2, 3 (W15448, 9) by Frank Smith and Margo No. 6 (W15434) by George Worobes in 1947. A 1/2 interest in Margo No. 6 was assigned to Matthew Richmond in 1948. An unknown amount of work was done on the Frank and Margo claims before their cancellation in 1950. The dyke was restaked as Dyke Nos. 5, 6 (W20598, 9) by J.J. Papineau in 1954.

Dyke 13 claim: This area contains at least seven outcrops of pegmatite (Fig. 1). The area was originally staked under the Bloom claim probably in the early 1930s. In 1937, Milson (W8431) and Shatford No. 2 (W8231) were staked by Sigurborg Miller (for Kenneth E. Miller) and by Felix Aho, respectively. The Milson claim was assigned to Lucy K. Drawson that year.

The Shatford No. 2 (W8231) was restaked as Bernic No. 10, 11 (W9481, 82) by W.J. Conley in 1939. The claims were assigned to Thomas M. Mungovan in 1940. That year, the Milson (W8431) claim was cancelled, and two years later, Bernic

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

No. 16 (W10578) was staked in its place. The Bernic claims were restaked as part of Gem No. 2, 3 (W12820, 21) by G.H. Drawson who held the claims in 1944-1946.

In 1947, the deposit was staked as Margo No. 4 (W15432) by George Worobes and part of Frank No. 1 (W15447) by Frank Smith. A half-interest in Margo No. 4 was assigned to Matthew Richmond in 1948. The Frank and Margo claims were cancelled in 1950.

M.G.S. No. 7 (W18393) was staked in the area by M.G. Smerchanski in 1951. It was cancelled a year later. The area was restaked as Dyke No. 13 (W20606) by J.J. Papineau in 1954. From 1954 onwards, the histories of the Dyke No. 5, 6 and 13 claims are similar.

The Dyke group was assigned to Contact Minerals Limited in 1956 and to Petromines Limited (formerly, Mc Kenzie Oil and Gas Company, Limited) in 1966. Madsen Red Lake Gold Mines Ltd was approached by Petromines Limited in 1966 to examine the property. From 1955-66, 433 m^3 (15 277 cu ft) of rock was removed from 11 pits or trenches on the Dyke group. Most of these trenches "open up a beryllium-bearing dyke for 1500 feet (457 m), especially over a length of 440 feet (134 m) and up to 80 feet (24 m) in width. The average beryl content of this dyke is probably less than 0.25%." (Davies, 1957). "Specimens (of lithium-bearing minerals) taken by (Mulligan) assayed only 0.78% Li_2O" (Mulligan, 1965).

An airborne EM survey was done in the area by Canadian Nickel Company Limited in 1959, under Airborne Permit No. 26 (Non-confidential Assessment File No. 90008). In 1968, a geological survey of the area was done at scales of 1:1200, 1:4800 by Velocity Surveys Limited of Calgary (Non-confidential Assessment File No. 91299). In 1971, a helicopter EM and radiometric survey was flown in the area by Hudson Bay Exploration and Development Company Limited, under Airborne Permit No. 93 (Non-confidential Assessment File No. 91686)

That year, the deposit was restaked as CB 3799 and partly as CB 4342 by S.J. Lesavage (President of Tudale Exploration Ltd). CB 3799, area 250.8 ha, was optioned to Tudale Exploration Ltd in 1972. An EM survey was done by Central Geophysics Ltd in 1972 and three holes (36 m, 33 m, 148 m deep) were drilled in the area in 1973 (Non-confidential Assessment File No. 92194). The drilling intersected pyrrhotite (massive to disseminated) and pyrite, but no pegmatite.

It was reported that Scope Resources Limited could earn a 60% interest in the Shatford Lake claims by spending $300 000 on exploration and development to 1976 (Financial Post, 1974) (See 52L/6 SN1). The work carried out under this agreement is not known. CB 4342 was cancelled in 1973; CB 3799 in 1977. The deposit was restaked under CB 9713 Pap #1, area 195 ha, by S.J. Lesavage in 1979. The claim was optioned to Esso Resources Canada Limited from 1986 to 1987.

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Langridge Map Service; Map 8B, 1967.

Manitoba Mines Branch:
a Corporation Files; Petromines Limited; Mc Kenzie Oil and Gas Company, Limited; Scope Resources Limited.

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b Non-confidential Assessment Files; File Nos. 90008, 91299, 91686, 92194.

c Unpublished Information Files; 52L/5,6.

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NAME OF PROPERTY
Dyke No. 5 (Shatford Lake Pegmatites) **N.T.S. AREA** 52 L/6 NW **FILE NO.** 179
REF. BE 4

MAP REFERENCES

*Map 52L/6, West, Ryerson Lake, (Topographic), Scale 1:63 360 - Mines and Technical Surveys, Canada.

Map 1194 G, Ryerson lake, (Aeromagnetic), Scale 1:63 360 - Manitoba Mines Branch and Geological Survey of Canada.

Map 36252G, Pointe du Bois, (Airborne Gamma-ray Spectrometry), Scale 1:250 000, Geological Survey of Canada, Province of Manitoba, Province of Ontario (1976).

Map 2059, Oiseau River area, (Geology), Scale 1:63 360 - Accompanying Report by Wright (1926), Geological Survey of Canada.

Map 274 A, Oiseau Sheet, (Geology), Scale 1:63 360 - Accompanying Marginal Notes by Wright and Stockwell (1932), Geological Survey of Canada.

Map 49-7, Cat Lake-Winnipeg River area, (Geology), Scale 1:63 360 - Accompanying Report by Springer (1950), Manitoba Mines Branch.

Map 56-1a, Winnipeg River area, (Geology), Scale 1:12 000 - Accompanying Report by Davies (1957), Manitoba Mines Branch.

Map 71-1/1, Wanipigow - Winnipeg rivers region, (Geology), Scale 1:253 440, compiled by McRitchie (1971), Manitoba Mines Branch.

Preliminary Map 1972 F-1, Geological compilation map of the Bird River area, (Geology), Scale 1:50 000, by D.L. Trueman, Manitoba Mines Branch.

Preliminary Map 1978 F-2, Pointe du Bois, west part, (Geology), Scale 1:250 000, by D.A. Janes, Manitoba Mines Branch.

Map ER80-1-1, Cat Lake-Winnipeg River pegmatite field, (Geology), Scale 1:100 000 - Accompanying Report by Cerny et al.(1981), Manitoba Mineral Resources Division.

Map ER80-1-3, Winnipeg River pegmatite district, (Structural Geology), Scale 1:50 000 - Accompanying Report by Cerny et al.(1981), Manitoba Mineral Resources Division.

#Claim Map Series NW 6, 52L, Scale 1:31 680, circa 1965, Mining Recording, Manitoba Mines Branch.

REMARKS

1. Dark muscovite-like Li-bearing mica crystals (up to 31 cm across) with curved faces, in one dyke in the area; and abundant beryl crystals (1.3 - 61 cm long, 0.6 - 7.6 cm across) in two pegmatites, were reported (Wright, 1930).

REMARKS cont'd

2. The dyke on the Dyke 5 claim occurs 70 m south of outcrop 'A' (see Fig. 1).

3. At the west end of the lake is a large flat-lying beryl-bearing pegmatite (see Mulligan (1968), Cerny and Turnock (1971), Bannatyne (1985)).

4. A dyke located about 245 m due south of Tin Island, on the old Dyke 12 claim, is one of three small beryl-bearing dykes in that area. The dyke is 2.4-3.4 m wide, and contains coarse grained albite + quartz. Beryl occurs as green translucent crystals 6 to 36 mm in diameter, and up to 36 mm long. The dyke also contains rare monazite, yttrotantalite, euxenite-polycrase, niobium-rich pseudo-ixiolite, pyrochlore-microlite, apatite, (Cerny and Bristol, 1972), lithian mica, tapiolite (Bannatyne, 1985) and rare topaz (Cerny et al., 1981).

Comp./Rev.		CC	PA
By Date	02-68	11-73	05-88

MANITOBA ENERGY AND MINES **MINERAL INVENTORY FILE NO.** 180

PRODUCT Beryllium **N.T.S. AREA** 52L/6 SE **REF.** BE 5

NAME OF PROPERTY:
Winnipeg River, East

OWNER OR OPERATOR AND ADDRESS
1988-Open

OBJECT LOCATED: Point on bank of Winnipeg River north of Eaglenest Lake

MINING DIVISION Winnipeg

Lat. 50° 20.8' Long. 95° 12.0' UNCERTAINTY: 500 m

Sec. 16 Tp. 16 R. 17 EPM

DESCRIPTION OF DEPOSIT

The deposit is situated within pegmatite dykes which have intruded quartz diorite and granodiorite of the Archean Great Falls Pluton. "The dyke strikes 85° and is nearly vertical...A number of small milky green beryl crystals occur in the coarse grained pink pegmatite." (Bannatyne, 1985).

HISTORY OF EXPLORATION AND DEVELOPMENT

The deposit is located in the Whiteshell Forest Reserve, 3 km from the Manitoba-Ontario border, and on the east bank of the Winnipeg River immediately north of Eaglenest Lake. The nearest road is 16 km due north, Provincial Road No. 315.

The deposit was probably staked as Ninety No. 1 (W28933) by G.H. Drawson in 1957. Two rock trenches were dug in 1958 with dimensions of 2.7 x 1.8 x 0.9 m (9 x 6 x 3 ft.), and 3.0 x 1.5 x 0.9 m (10 x 5 x 3 ft.). These are along the bank of the Winnipeg River. An airborne EM survey using the Inco dual frequency (IP/OP) system was done in the area by Canadian Nickel Company Limited under Airborne Permit No. 26, in 1959 (Non-confidential Assessment File No. 90008). A pit of 3.7 x 3.7 x 1.2 m (12 x 12 x 4 ft.) was dug in 1961, also on the bank of the river. The claim was assigned to H.H. Owens and J.L. Faurschou in 1964.

In 1970, all interest in Ninety No. 1 was assigned to H.H. Owens. Two pits were dug in 1970 with dimensions of 3.0 x 1.5 x 0.9 m (10 x 5 x 3 ft.) and 3.7 x 3.7 x 1.2 m (12 x 12 x 4 ft.). In 1971, Hudson Bay Exploration and Development Company Limited did a helicopter EM and radiometric survey in the area under Airborne Permit No. 93 (Non-confidential Assessment File No. 91686). The claim was assigned to J.R. Arbuthnott, J.R. Collett and F.R. Bradley in 1972. The claim was cancelled in 1977.

Beryllium is the only rare element present.

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Manitoba Mines Branch:
a Corporation Files; The Lithium Corporation of Canada Limited
b Non-confidential Assessment Files; File Nos. 90008, 91686

Phillips, K.A., 1978: Minerals of Manitoba, Volume 1: Non-metallic and pegmatitic; Department of Mines, Resources and Environmental Management, Manitoba Mineral Resources Division, MRD Educational Series 78/1, p. 72,92.

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# Map 52L/6, East Ryerson Lake, (Topo.), Scale 1:63 360, Mines and Technical Surveys, Canada.

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Map 36252G, Pointe du Bois, (airborne gamma-ray spectrometry), Scale 1:250 000, compiled by Terra Surveys Ltd., Kenting Earth Sciences Ltd., Northway Survey Corporation Ltd.; Geological Survey of Canada, Province of Manitoba, Province of Ontario (1976).

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Map 96A, Wanipigow, Manigotagan and Oiseau rivers, (Geology), Scale 1:253 440, Accompanying G.S.C. Summary Report, 1912 Sessional Paper 26, p. 262-270; Geological Survey of Canada (1913).

Map 274A, Oiseau Sheet (Geol), Scale 1:63 360 - Accompanying Marginal Notes by Wright and Stockwell (1932), Geological Survey of Canada.

Map 49-7, Cat Lake-Winnipeg River area (Geology), Scale 1:63 360, Accompanying Report by G.D. Springer(1950), Manitoba Mines Branch.

Map 56-1b, Ryerson Lake-Winnipeg River area (Geology), Scale 1:12 000, Accompanying Report by J.F. Davies (1956), Manitoba Mines Branch.

Preliminary Map 1972 F-1, Bird River, (Geology), Scale 1:50 000, by D.L. Trueman, Manitoba Mines Branch.

Preliminary Map 1975 F-9, Bird River E., (Geology), Scale 1:31 680, by D.L. Trueman, Manitoba Mines Branch.

Preliminary Map 1976 F-7, Ryerson Lake, (Geology), Scale 1:50 000, by D.A. Janes, Manitoba Mines Branch.

Preliminary Map 1978 F-2, Pointe du Bois (west part), Scale 1:250 000, by D.A. Janes, Manitoba Mines Branch.

Map ER80-1-1, Cat Lake-Winnipeg River pegmatite field, (Geology), Scale 1:100 000 - Accompanying Report by Cerny et al (1981), Manitoba Mineral Resources Division.

Map ER80-1-3, Winnipeg River pegmatite district, (structural geology), Scale 1:50 000 - Accompanying Report by Cerny et al (1981), Manitoba Mineral Resources Division.

Claim map series, SE 6, 52 L, Scale 1:31 680, circa 1972, Mining Recording, Manitoba Mines Branch.

REMARKS

1. The location of the deposit is only approximate. The deposit may have been staked as part of the Carl group of claims (W29444, 48, 54, 64).

2. The dyke described by Bannatyne (1985), apparently occurs near the south boundary of the former Luke group of claims. The Luke 34 (W21751) claim was staked by R. Sobiski in 1955, assigned to Andrew Robertson, and then to The Lithium Corporation of Canada, Limited which held the claim for 2 years and reported indications of beryl, chalcopyrite, iron, gold, zinc, on the Luke and George group of claims in 1956. It was restaked under Carl 22 (W29464) in 1958-59 by L.K. Johnson.

3. According to Bannatyne (1985), "Small crystals of glassy bluish-green and aquamarine beryl have been collected from pegmatites outcropping on the islands in this area".

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MANITOBA ENERGY AND MINES **MINERAL INVENTORY FILE NO. 181**

PRODUCT Beryllium **N.T.S. AREA** 52L/6SW **REF.** BE 6

NAME OF PROPERTY:
Top o' the World

OWNER OR OPERATOR AND ADDRESS
1988 - Open

OBJECT LOCATED: Centre of claim **MINING DIVISION** Winnipeg

Lat. 50° 20.4' Long. 95° 17.8' UNCERTAINTY: 500 m

Sec. 14 Tp. 16 R. 16 EPM

DESCRIPTION OF DEPOSIT

The deposit is located in a pegmatite dyke which intrudes Archean grey quartz diorite and granodiorite of the Great Falls Pluton.

The dyke shows zones of different compositions which are approximately parallel to the walls. "In one zone, about three feet (one metre) wide, small, well formed beryl crystals are easily seen. Other zones show less beryl and some show lepidolite. The beryl crystals range from 1/2 to 3 inches (1.3 to 7.6 cm) in diameter." (Stockwell, 1932). In addition to the beryllium and lithium present on the Top o' the Hill M.C., columbite-tantalite, monazite, cesium, cassiterite, bismuth, cadmium, and uraninite occur on the Soon group of 28 claims. However, available literature does not pin-point the occurrence. Gold, silver, copper and zinc have also been reported. Some of these minerals may possibly occur in the former Top o' the World claim, which on restaking, became part of the Soon group.

Bannatyne (1985, p. 30) reported two parallel pegmatites (see Remarks) outcropping west of a large pegmatite that has been traced over a length of 610 m, the most westerly of which is zoned, strikes north, dips 80° to vertical, and is 6 m wide. This pegmatite consists of fine-grained and glassy quartz, pink feldspar, pink albite, pink cleavelandite, muscovite, some quartz-feldspar intergrowths. Six zones have been described. In the 0.6 m intermediate zone, patches of lilac lithium mica forming up to 30% of the zone over a small area were reported (Bannatyne, 1985).

Associated minerals or products of value
lithium, columbium, tantalum, cesium, bismuth, cadmium, uranium, gold, silver, copper, tin, zinc.

HISTORY OF EXPLORATION AND DEVELOPMENT

The occurrence of beryllium is located about 0.8 km east of Greer Lake, 22.5 km east and 3.2 km north of Point du Bois and Provincial Road No. 313.

It was originally staked as Top o' the World MC (39373) by Grace Casey in 1925. From 1925 to 1927, a total of 55 m^3 (1956 cu ft) of rock was removed by means of stripping and trenching from seven areas.

The claim was transferred to Warner Lake Mines Limited in 1928. A total of 48 m^3 (1696 cu ft) was taken from the claim from 1928 to 1935 from eight trenches and pits.

The claim was surveyed in 1936 as Lot 190, Group 74, Plan 3701. In 1938 it was assigned to Winnipeg River Tin Mines Limited.

Restakings include:

Year	Claim Name	Staker
1944	Captain Nos. 3, 4, 5 (W12433, 4, 5) (1945-Assigned Winnipeg River Tin Mines Limited)	Emil Kiziak
1950	Top o' the World Nos. 1, 2, 4, 5 (W17988, 9, 91, 92) (1950-Assigned to N.S. Black)	Matt Hamadin
1953	BRL Nos. 17, 18, 21, 22 (W19825, 6, 9, 30)	C. Anderson
1954	Loon Nos. 6, 7, 10, 11, 15 (W20391, 2, 5, 6, 20400)	G.M. Smerchanski

In 1954, the Loon claims were assigned to William Cobb and the next year to Phil Smerchanski. Geological mapping (Scale 1:2400) was done on the claims by M.G. Smerchanski in 1955. The largest amount of spodumene was reported in dykes located on the Loon 10 and 11 claims (Non-confidential Assessment File No. 91302). In 1957, the claims were assigned to Dalhart Minerals Corporation Limited (later: Dalhart Beryllium Mines & Metals Corporation Limited). In 1959, Canadian Nickel Company Limited did an airborne EM survey in the area under Airborne Permit No. 26, using the INCO dual frequency (IP/OP) system (Non-confidential Assessment File No. 90008).

In 1961, the claims were assigned to Canhart Minerals Limited. Canhart Mines Limited, formed by Canol Metal Mines Limited, had apparently acquired Dalhart Beryllium Mines & Metals Corporation Limited. An unknown amount of work was performed on the Loon claims.

The deposit was restaked as part of Soon Nos. 5, 6, 9, 10, 16, 17 (W39966, 7, 70, 1, 7, 8) by Thomas Clarke in 1966 and the next year assigned to Spacemaster Minerals Ltd. (formerly, Winnipeg River Tin Mines Limited).

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

In 1971, it was restaked as part of CB 5078 by Harry Guymer. That year, a helicopter EM and radiometric survey was flown by Hudson Bay Exploration and Development Company Limited (H.B.E.D.) under Airborne Permit No. 93 (Non-confidential Assessment File No. 91686). The claim was assigned to H.B.E.D. in 1972. Approximately 500 m north of this area, a hole was drilled at a bearing of 168°, an inclination of 50°, to a depth of 57 m (188 ft). Pyrite (up to 90%) was reported in the core from drill depths of 19 to 41 m (61.6-135.5 ft) (Non-confidential Assessment File No. 92360). On December 30, 1974, the claim block was cancelled.

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Davies, J.F., 1957: Geology of the Winnipeg River area; Manitoba Mines Branch, Publication 56-1, p. 19.

Langridge Map Service, 1967: Map 8C.

Manitoba Mines Branch:
a Mining Engineering Files; Dalhart Beryllium Mines & Metals Corporation Limited; Winnipeg River Tin Mines Limited;

b Non-confidential Assessment Files; File Nos. 90008, 91302, 91686, 92360.

Stockwell, C.H., 1932: Beryllium deposits; in Geology and Mineral Deposits of Part of Southern Manitoba; Geological Survey of Canada, Memoir 169, p. 128.

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Wright, J.F. and Stockwell, C.H., 1932: Oiseau Sheet, (Marginal Notes); Geological Survey of Canada.

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Map 1194 G, Ryerson Lake, (Aeromagnetic), Scale 1:63 360, Manitoba Mines Branch and Geological Survey of Canada.

Map 2059, Oiseau River area, (Geology), Scale 1:63 360 - Accompanying Report by Wright (1926), Geological Survey of Canada.

Map 274 A, Oiseau Sheet, (Geology), Scale 1:63 360 - Accompanying Marginal Notes by Wright and Stockwell (1932), Geological Survey of Canada.

Map 49-7, Cat Lake-Winnipeg River area, (Geology), Scale 1:63 360 - Accompanying Report by Springer (1950), Manitoba Mines Branch.

Map 56-1b, Ryerson Lake-Winnipeg River area, (Geology), Scale 1:12 000 - Accompanying Report by Davies (1957), Manitoba Mines Branch.

Preliminary Map 1972 F-1, Geological compilation map of the Bird River area, (Geology), Scale 1:50 000, by D.L. Trueman, Manitoba Mines Branch.

Preliminary Map 1976 F-7, Ryerson Lake (Geology), Scale 1:50 000, by D.A. Janes, Manitoba Mines Branch.

Preliminary Map 1978 F-2, Pointe du Bois (West part), (Geology), Scale 1:250 000, by D.A. Janes, Manitoba Mines Branch.

Map ER80-1-3, Winnipeg River pegmatite district, (Structural Geology), Scale 1:50 000 - Accompanying Report by Cerny et al.(1981), Manitoba Mineral Resources Division.

Map ER80-1-1, Cat Lake-Winnipeg River pegmatite field, (Geology), Scale 1:100 000 - Accompanying Report by Cerny et al.(1981), Manitoba Mineral Resources Division.

#Claim Map Series SW 6, 52 L, Scale 1:31 680, circa 1938, Mining Recording, Manitoba Mines Branch.

REMARKS

The two pegmatites are located in the southeastern part of the Loon 10 claim; the one thought to be the 'Top-of-the-World' pegmatite is exposed in a small pit at the top of the cliff (Bannatyne, 1985).

Comp./Rev.		CC	CFL	PA
By Date	3-68	10-73	11-78	05-88

PRODUCT Beryllium **N.T.S. AREA** 52L/6 NW **REF.** BE 7

NAME OF PROPERTY:
Dyke No. 19

OWNER OR OPERATOR AND ADDRESS
1988 - Mr. S.J. Lesavage
150 Robindale Road
Winnipeg, Manitoba
R3R 1G7

OBJECT LOCATED: Centre of Dyke No. 19 **MINING DIVISION** Winnipeg

Lat. 50° 23.25' Long. 95° 27.58' UNCERTAINTY: 500 m

Sec. Tp. 16 R. 15 EPM

DESCRIPTION OF DEPOSIT

The following description of Dyke 'B' is from Davies (1957, p. 20-21, in Bannatyne, 1985, p. 38):

"This pegmatite intrudes pillowed lavas, and is exposed in two places for lengths of 125 and 150 feet (38 and 46 m), respectively. The total length is probably about 600 feet (183 m). The maximum width is about 15 feet (4.6 m).

The dyke is uniformly coarse grained and consists mainly of large pink feldspar crystals with the remainder, milky white quartz, and books of biotite, zinnwaldite, and yellowish-green mica. Feldspar comprises about 2/3 of the mineral content. Some of the quartz is in large patches a foot (30 cm) or more across.

Yellow-green beryl crystals are scattered throughout the dyke. Some columbite is present, and a little purple fluorite is found in places".

Cerny and Bristol (1972, p. 561) noted: "Both microcline-perthite and albite are abundant.....and pale-blue to violet apatite is a frequent accessory constituent.....In the central parts of this pegmatite large columnar crystals of water-clear or milky topaz were found, attaining up to 30 cm in length and 12 cm across".

HISTORY OF EXPLORATION AND DEVELOPMENT

The property is located east of a powerline, approximately 1.22 km southeast of the east end of Shatford Lake.

The deposit was first staked as Tin Hat No. 3 (D 9950) by J. Williams and Tin Hat No. 5 (D 9952) by L. Green in 1928. An unknown amount of work was completed on these claims before cancellation in 1934.

Associated minerals or products of value
lithium, columbium, fluorite, topaz, apatite.

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

It was restaked in 1954 by Norma Papineau as Dyke No. 19 (W 20868). An abstract of the claim title was issued to Leitch Gold Mines Ltd. in 1956. The Dyke group was assigned to Contact Minerals Limited in 1956 and to Petromines Limited (formerly, Mc Kenzie Oil and Gas Company, Limited) in 1966.

Trenching was done, mostly to expose the dyke, with 231 m^3 (8168 cu ft) of rock being removed from five pits in 1958-1966. Its total length is 183 m by 4.6 m wide (600 x 15 ft).

In 1968, Velocity Surveys Limited of Calgary did a geological survey of the area at a scale of 1:4800 (Non-confidential Assessment File No. 91299). The claim was cancelled in 1970.

Airborne surveys were done in the area by Canadian Nickel Company Limited in 1959, and by Hudson Bay Exploration and Development Company Limited in 1971, under Airborne Permit Nos. 26 and 93 respectively (Non-confidential Assessment File Nos. 90008, 91686).

The dyke was restaked as CB 5837 by S.J. Lesavage in 1973. The claim was cancelled in 1977.

The following restakings have occurred:

Year	Claim	Acreage	Staker	Owner
1980-1983	CB 12122 (Ethel)	259 ha	Randy S. Hall Ian Kacperski	Esso Resources Canada Limited
1986-1987	Jaf (W 51270)	188 ha	Harry S. Nilsson	Esso Resources Canada Limited

The Jaf (W 51270) claim was transferred to S.J. Lesavage in 1987.

REFERENCES

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Dawson, K.R., 1974, Niobium (columbium) and tantalum in Canada; Geological Survey of Canada, Economic Geology Report No. 29, p. 80-81.

Derry, D.R., 1930, Tin-bearing pegmatites in eastern Manitoba; Economic Geology, v. 25, No. 2, p. 150.

Langridge Map Service; Map 8B, December 7, 1967.

Manitoba Mines Branch:
a Non-confidential Assessment Files; File No. 90008, 91299, 91686.
b Unpublished Information Files; 52L/5, 6.
c Corporation Files; Petromines Limited; Mc Kenzie Oil and Gas Company, Limited.

McRitchie, W.D., 1971, The petrology and environment of the acidic plutonic rocks of the Wanipigow - Winnipeg rivers region, southeastern Manitoba; in Geology and Geophysics of the Rice Lake region, southeastern Manitoba (Project Pioneer), eds W.D. McRitchie and W. Weber; Manitoba Department of Mines and Natural Resources, Mines Branch, Publication 71-1, p. 7-61.

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Mulligan, R., 1968, Geology of Canadian beryllium deposits; Geological Survey of Canada, Economic Geology Report No. 23, p. 72, 74-75.

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Sabina, A.P., 1963, Rocks and minerals for the collector: Sudbury to Winnipeg; Geological Survey of Canada, Paper 63-18, p. 57.

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Wright, J.F., 1926, Geology and mineral deposits of Oiseau (Bird) River map-area; Geological Survey of Canada, Summary Report 1924, Part B, p. 51-104.

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MAP REFERENCES

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Map 1194 G, Ryerson lake, (Aeromagnetic), Scale 1:63 360 - Manitoba Mines Branch and Geological Survey of Canada.

Map 36252G, Pointe du Bois, (Airborne Gamma-ray Spectrometry), Scale 1:250 000, Geological Survey of Canada, Province of Manitoba, Province of Ontario (1976).

Map 2059, Oiseau River area, (Geology), Scale 1:63 360 - Accompanying Report by Wright (1926), Geological Survey of Canada.

Map 274 A, Oiseau Sheet, (Geology), Scale 1:63 360 - Accompanying Marginal Notes by Wright and Stockwell (1932), Geological Survey of Canada.

Map 49-7, Cat Lake-Winnipeg River area, (Geology), Scale 1:63 360 - Accompanying Report by Springer (1950), Manitoba Mines Branch.

NAME OF PROPERTY **FILE NO.** 1009
Dyke No. 19 **N.T.S. AREA** 52 L/6 NW **REF.** BE 7

MAP REFERENCES cont'd

#Map 56-1a, Winnipeg River area, (Geology), Scale 1:12 000 - Accompanying Report by Davies (1957), Manitoba Mines Branch.

Map 71-1/1, Wanipigow - Winnipeg Rivers region, (Geology), Scale 1:253 440, compiled by McRitchie (1971), Manitoba Mines Branch.

Preliminary Map 1972 F-1, Geological compilation map of the Bird River area, (Geology), Scale 1:50 000, by D.L. Trueman, Manitoba Mines Branch.

Preliminary Map 1978 F-2, Pointe du Bois (west part), (Geology), Scale 1:250 000, by D.A. Janes, Manitoba Mines Branch.

Map ER80-1-1, Cat Lake-Winnipeg River pegmatite field, (Geology), Scale 1:100 000 - Accompanying Report by Cerny et al.(1981), Manitoba Mineral Resources Division.

Map ER80-1-3, Winnipeg River pegmatite district, (Structural Geology), Scale 1:50 000 - Accompanying Report by Cerny et al.(1981), Manitoba Mineral Resources Division.

*Claim Map Series NW 6, 52L, Scale 1:31 680, circa November 1970, Mining Recording, Manitoba Mines Branch.

REMARKS

1. See 52L/6 BE 4 for other beryl-bearing pegmatites at Shatford Lake.
2. "Several small dykes, about 1000 ft (305 m) east of the east end of the lake, contain a few crystals of green beryl" (Davies, 1957).

Comp./Rev.		CC	PA
By Date	02-68	11-73	05-88

PRODUCT Feldspar	**N.T.S. AREA** 52L/6 SW	**REF.** FLD 1

NAME OF PROPERTY:
Greer Point

OWNER OR OPERATOR AND ADDRESS
1988 - Open

OBJECT LOCATED: Centre of claim. **MINING DIVISION** Winnipeg

Lat. 50° 20.6'	Long. 95° 18.6'	UNCERTAINTY: 500 m
Sec. 15	Tp. 16	R. 16 EPM

DESCRIPTION OF DEPOSIT

The deposit consists of microcline and albite feldspar situated in a pink pegmatite which intrudes Archean gneissic grey granodiorite and quartz diorite of the Great Falls Pluton. The dyke strikes 70°, dips vertically, and reaches dimensions of 400 x 15 m.

The feldspar is in large crystals several metres (feet) across. J.F. Davies (1957) said that "large areas of pure microcline were present in the central part of the dyke". One crystal of microcline was estimated to be 2.1 m long and 1.2 m wide. "Large masses of quartz occur with the feldspar, and also masses of muscovite up to 3 m long and 0.3 m across" (Bannatyne, 1985). Bismuthinite occurs in small amounts in the feldspar quarry. One of 4 holes diamond drilled on the Loon 18 claim intersected a few crystals of spodumene in a pegmatite dyke.

HISTORY OF EXPLORATION AND DEVELOPMENT

The deposit is located in a pegmatite dyke on the southeast side of Greer Lake and 16 km east and 4 km north of Pointe du Bois and Provincial Road No. 313. There is a trail from the property to a point on the Winnipeg River, about 9.6 km to the west.

It was first staked as Greer Point M.C. (15940) in 1930 by G. Werner and the next year assigned to P.V. Quinn. Apparently, Winnipeg River Tin Mines Limited held an option on Greer Point, as a considerable amount of feldspar was shipped from this claim and others in the area to points in the U.S.A. and Canada from 1933 to 1935. In 1933 it was reported that a contract to ship 1500 tons of feldspar to Warroad, Minnesota, had been secured. Feldspar Products Limited quarried and shipped the feldspar to Warroad, Minnesota, for use in ceramics (Bannatyne, 1985, p. 28). Feldspar was used in the glass, pottery, enamelware, brick and tile trades and as a stucco dash. The feldspar is of high grade, the only impurity being very minor beryl and quartz, and mica in large books. This claim was surveyed as Lot 211.

Associated minerals or products of value
beryl, bismuth.

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

The claim was restaked as part of Greer Lake M.C. (W10584) by K.M. Wengel in 1942 and Grace Nos. 10, 11 (W12426, 7) by Salter Billon in 1944. An unknown amount of work was performed on Greer Lake M.C. before its cancellation in 1951.

The Grace claims were assigned to Winnipeg River Tin Mines Limited in 1945. These claims were restaked as Top o' the World M.C. and Top o' the World No. 3 (W17987, 90) by Matt Hamadin in 1950 and assigned to N.S. Black.

In 1954 the deposit was restaked by P. Smerchanski as Loon Nos. 8, 9, 18 (W20393, 4, 20403) and by E. Clemens as Loon No. 19 (W20404) and assigned to William Cobb. The next year they were assigned to Phil Smerchanski who had a geological survey on a scale of 1:2400, controlled by survey lines at 61 m (200 ft) intervals, done on the claims. In 1956, four drill holes were drilled on Loon No. 18 of 126 m, 131 m, 124 m, 125 m (415, 430, 408, and 410 ft) (Non-Confidential Assessment File No. 91302). In 1957, the claims were assigned to Dalhart Minerals Corporation Limited (later Dalhart Beryllium Mines & Metals Corporation Limited). That year, work performed on Loon No. 18 was a rock pit of 48 x 2 x 2 m (157 x 6 x 6 ft) (160 m^3; 5652 cu ft) and on Loon No. 19 were:

i) rock pit of 85 m^3 (3000 cu ft)
ii) stripping of 195 m^3 (6890 cu ft)
iii) stripping of 320 m^3 (11 310 cu ft).

A geological survey was performed on Loon Nos. 8, 9, 18, 19 in 1958 by Central Geophysics Ltd. Mapping on the Loon 19 (W20404) claim indicated an outcrop area with an exposed length of 46 m (150 ft), and an average width of 10 m (33 ft). Sampling of this area in 1957 indicated 0.50% beryl, bringing the estimated tonnage of this dyke to 153 tonnes (169 tons) grading 0.50% beryl (Non-Confidential Assessment File No. 92363). In 1959, Canadian Nickel Company Limited did an airborne EM survey in the area under Airborne Permit No. 26, using the INCO dual frequency (IP/OP) system (Non-Confidential Assessment File No. 90008). The claims were assigned to Canhart Mines Limited in 1961. Canhart Mines Limited, formed by Canol Metal Mines Limited, had apparently acquired Dalhart Beryllium Mines & Metals Corporation Limited.

In 1966 the deposit was restaked as Soon Nos. 3, 4, 11, 12 (W39964, 5, 72, 73) by Thomas Clarke and was assigned the next year to Spacemaster Minerals Ltd. (formerly Winnipeg River Tin Mines Limited). The following work was done on Soon No. 12:

i) rock pit - 153 m^3 (5400 cu ft)
ii) rock pit - 17 m^3 (600 cu ft)
iii) rock pit - 25 m^3 (900 cu ft).

An unknown amount of work was performed on Soon Nos. 3, 4, 11. In 1971 Soon Nos. 4, 11, 12 were cancelled and restaked as Lac Nos. 4, 5, 6 Fr. (W43941, 2, 3), by Harry Guymer and assigned to Hudson Bay Exploration and Development

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

Company Limited (H.B.E.D.) in 1972. A pit was dug in 1969 with dimensions of 1.5 x 7 x 1 m (5 x 15 x 4 ft) (8.5 m^3; 300 cu ft). The pit was extended in 1971 by 8 m^3 (288 cu ft) (18 x 4 x 4 ft). In 1971, H.B.E.D. did a helicopter EM and radiometric survey in the area under Airborne Permit No. 93 (Non-Confidential Assessment File No. 91686).

The Lac No. 5 and Lac No. 6 Fr. claims were cancelled in December, 1974. That year, Spacemaster Minerals Ltd. had a 2-year option agreement with H.B.E.D. on the Soon 3 claim. A 1.7 km horizontal-loop electromagnetic (EM-17) survey was done on this claim by H.B.E.D., and a potential anomaly was noted in the northeast corner (Non-Confidential Assessment File No. 91791). In 1975, the agreement was cancelled, and in 1977, the Lac No. 4 and Soon No. 3 claims were cancelled. The area was restaked under CB 6984 (33 ha) by John Donner in February 1980. On June 20, 1983, the claim was cancelled.

Bannatyne (1985) reported that one pit in the area was 60 m long, 6 to 7.5 m wide, and about 7.5 m deep; another was about 15 x 6 x 2.1 m.

HISTORY OF PRODUCTION

The feldspar quarry was active from 1933 to 1935. 40 tonnes (44 tons) were shipped to the end of 1933. At least 1543 tonnes (1700 tons) of feldspar was quarried from the claims owned by Winnipeg River Tin Mines Limited in 1934; 182 tonnes (200 tons) locally used and 1361 tonnes (1500 tons) shipped to the U.S.A.

REFERENCES

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Davies, J.F., 1957, Geology of the Winnipeg River area; Manitoba Mines Branch, Publication 56-1, p. 18, 24.

Langridge Map Services, 1967; Map 8B.

Manitoba Mines Branch:
a Non-confidential Assessment Files; File Nos. 90008, 91302, 91686, 91791, 92363.

b Corporation Files; Winnipeg River Tin Mines Limited.

REFERENCES cont'd

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MAP REFERENCES

*Map 52L/6, West, Ryerson Lake (Topo), Scale 1:50 000, Mines & Technical Surveys, Canada.

Map 1194 G, Ryerson Lake (Aeromag), Scale 1:63 360, Manitoba Mines Branch and Geological Survey of Canada.

Map 2059, Oiseau River area (Geol), Scale 1:63 360 - Accompanying Report by Wright (1926), Geological survey of Canada.

Map 274A, Oiseau Sheet (Geol), Scale 1:63 360 - Accompanying Marginal Notes by Wright and Stockwell (1932), Geological Survey of Canada.

Map 49-7, Cat Lake-Winnipeg River area (Geol), Scale 1:63 360 -Accompanying Report by Springer (1950), Manitoba Mines Branch.

Map 56-1b, Ryerson Lake-Winnipeg River area (Geol), Scale 1:12 000 - Accompanying Report by Davies (1957), Manitoba Mines Branch.

Preliminary Map 1972 F-1, Bird River area (Geol), Scale 1:50 000, by D.L. Trueman, Manitoba Mines Branch.

Preliminary Map 1976 F-7, Ryerson Lake (Geol), Scale 1:50 000, by D.A. Janes, Manitoba Mines Branch.

Preliminary Map 1978 F-2, Pointe du Bois (west part) (Geol), Scale 1:250 000, by D.A. Janes, Manitoba Mines Branch.

Map ER80-1-1, Cat Lake-Winnipeg River pegmatite field (Geol), Scale 1:100 000 - Accompanying Report by Cerny et al.(1981), Manitoba Mineral Resources Division.

NAME OF PROPERTY **FILE NO.** 189
Greer Point **N.T.S. AREA** 52L/6 SW **REF.** FLD 1

MAP REFERENCES cont'd

Map ER80-1-3, Winnipeg River pegmatite district (Structural Geology), Scale 1:50 000 - Accompanying Report by Cerny et al.(1981), Manitoba Mineral Resources Division.

#Claim Map Series SW 6, 52L, Scale 1:31 680, circa 1935, Mining Recording, Manitoba Mines Branch.

REMARKS

DDH #1 showed a few crystals of spodumene in a pegmatite dyke.

Comp./Rev.		CC	PA
By Date	2-68	10-73	05-88

MANITOBA ENERGY AND MINES **MINERAL INVENTORY FILE NO. 207**

PRODUCT Quartz **N.T.S. AREA** 52 L/6 NW **REF.** GEM 1

NAME OF PROPERTY:
Rose

OWNER OR OPERATOR AND ADDRESS
1988 - William C. Hood
P.O. Box 1722
Beausejour, Manitoba
ROE OCO

OBJECT LOCATED: Centre of Claim **MINING DIVISION** Winnipeg

Lat. 50° 24.9'	Long. 95° 18.9'	UNCERTAINTY: 500 m
Sec. 10	Tp. 17	R. 16 EPM

DESCRIPTION OF DEPOSIT

The deposit is situated in a pegmatite dyke which intrudes Archean metavolcanics (basalt, andesite, tuff; pillow lava and flow lava). The outcrop is 31 x 6 m (100 by 20 ft) with rose quartz forming the core zone in the dyke where it "occupies pockets, some several feet in length, within a large pod-shaped mass of white, smoky and banded quartz (Phillips, 1978)." According to Bannatyne (1985), the pegmatite outcrops over a length of 40 m, and a maximum width of at least 18 m, while the quartz-core is exposed over a length of 36 m along the south side of a rock ridge.

The rose quartz "...has a good color and transparency of good grade" (Wallace and Greer, 1927). It occurs as "saccharoidal translucent to rose, glassy clear to deep rose, ... rose banded, and rose clear" (Bannatyne, 1985). A tourmaline crystal, 23 cm long, 31 mm in diameter, was noted at the margin of the quartz core (Bannatyne, 1985). Minor topaz is also present.

HISTORY OF EXPLORATION AND DEVELOPMENT

The deposit is located 4.8 km south of Provincial Road No. 315 and 0.54 km north of the east end of Birse Lake.

The deposit was originally staked as Diamond (42441) by Peter Osis in 1927. In 1928, rose quartz was found on the claim; "some was shipped to Germany, and costume jewellery made from it was sold in Winnipeg" (Bannatyne, 1985, p. 3). In 1933 it was restaked as Rose (W2087) by K.F. Miller. An undetermined amount of work was done on Diamond and Rose. In 1942 the Rose M.C. was assigned to Sigurburg Miller and in 1946 to Bruce J. O'Neil.

Associated minerals or products of value
quartz (STN), topaz, tourmaline

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

It was restaked as Rose (W16169) by R.J.R. Schaller in 1948. A pit, with dimensions of 3 x 1 x 9 m (9 x 4 x 30 ft) was dug the following year. Also an area of 1.8 x 0.3 x 46 m (6 x 1 x 150 ft) was stripped. In 1958 a pit was dug with dimensions of 2.4 x 2.4 x 1.5 m (8 x 8 x 5 ft) and two areas were stripped with dimensions of 3.0 x 24 m (10 x 80 ft) and 2.4 x 0.3 x 15 m (8 x 1 x 50 ft). In 1959, Canadian Nickel Company Limited did an airborne EM survey in the area under Airborne Permit (AP) No. 26 (Non-confidential Assessment File No. 90008).

The claim, as part of the estate of R.J.R. Schaller, reverted to Mrs. E. Schaller in 1960. The claim was surveyed as Lot 2361 in 1968. The claim was assigned to E. Schaller in 1970 and leased (M-9141) in that year.

Two airborne surveys were done in the area in 1971 and in 1974. In 1971, a helicopter EM and radiometric survey was done by Hudson Bay Exploration and Development Company Limited under AP No. 93 (Non-confidential Assessment File No. 91686). In 1974, an airborne electromagnetic and magnetometer survey was flown in the AP No. 116 area, using the Aerodat (IP/OP) system (Non-confidential Assessment File No. 91564). The lease was converted back to claim W16169 in 1976. Phillips (1978) reported that the quartz has been used as an ornamental stone.

In 1984, the claim was forfeited, and was restaked soon after as the Rose (W49394) claim, area 16 ha, by William C. Hood. That year W. C. Hood obtained Quarry lease QL 551 for the area. The Rose claim was cancelled in 1986. However, the 20.69-ha quarrying lease is still in effect.

HISTORY OF PRODUCTION

There is a good demand for rose quartz in small, well-selected lots for the lapidary trade and as an aggregate for decorative blocks.

REFERENCES

Bannatyne, B.B., 1972, Pegmatite project; in Summary of Geological Fieldwork 1972; Manitoba Department of Mines, Resources and Environmental Management, Mines Branch, Geological Paper 3/72, p. 50-53.

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Cerny, P., Trueman, D.L., Ziehlke, D.V., Goad, B.E. and Paul, B.J., 1981, The Cat Lake-Winnipeg River and the Wekusko Lake pegmatite fields, Manitoba; Manitoba Department of Energy and Mines, Mineral Resources Division, Economic Geology Report ER80-1, p. 83-85, 101, 109, 124, 152.

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a Non-confidential Assessment Files; File Nos. 90008, 91564, 91686.

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Sabina, A.P., 1963, Rocks and minerals for the collector: Sudbury to Winnipeg; Geological Survey of Canada, Paper 63-18, p. 57.

Springer, G.D., 1950, Cat Lake-Winnipeg River area; Manitoba Mines Branch, Publication 49-7, p. 14.

Wallace, R.C. and Greer, W.C.C., 1927, The mineral resources of Manitoba; Industrial Development Board of Manitoba, p. 54.

Wright, J.F. and Stockwell, C.H., 1932, Oiseau Sheet (Marginal Notes); Geological Survey of Canada.

MAP REFERENCES

*Map 52 L/6, West, Ryerson Lake (Topo), Scale 1:50 000, Mines & Technical Surveys, Canada.

Map 1194 G, Ryerson Lake (Aeromag), Scale 1:63 360, Manitoba Mines Branch and Geological Survey of Canada.

Map 274 A, Oiseau Sheet (Geol), Scale 1:63 360 - Accompanying Marginal Notes by Wright and Stockwell (1932), Geological Survey of Canada.

Map 49-7, Cat Lake - Winnipeg River area (Geol), Scale 1:63 360 - Accompanying Report by Springer (1950), Manitoba Mines Branch.

Map 56-1b, Ryerson Lake-Winnipeg River area (Geol), Scale 1:12 000 - Accompanying Report by Davies (1957), Manitoba Mines Branch.

Preliminary Map 1972 F-1, Geological compilation of the Bird River area (Geol), Scale 1:50 000, by D.L. Trueman, Manitoba Mines Branch.

Preliminary Map 1975 F-9, Bird River E. (Geol), Scale 1:31 680, by D.L. Trueman, Manitoba Mines Branch.

MAP REFERENCES cont'd

Preliminary Map 1978 F-2, Pointe du Bois (west part) (Geol), Scale 1:250 000, by D.A. Janes, Manitoba Mines Branch.

Map ER80-1-1, Cat Lake-Winnipeg River pegmatite field (Geol), Scale 1:100 000 - Accompanying Report by Cerny et al.(1981), Manitoba Mineral Resources Division.

Map ER80-1-3, Winnipeg River pegmatite district (Structural Geology), Scale 1:50 000 - Accompanying Report by Cerny et al.(1981), Manitoba Mineral Resources Division.

Map (Unpublished), Rose (W3738), Lot 2361, Group 124, Plan 17271, (Surveyed 1970), Scale 1:4800, Mining Recording, Manitoba Mines Branch.

Claim Map Series 52 L/6 NW, Scale 1:31 680, circa 1974, Mining Recording, Manitoba Mines Branch.

REMARKS:

1. At least 37 pegmatites, many of which contain beryl, are known to occur in the Osis Lake, Birse Lake, and Tin Lake areas. One large pegmatite dyke (1300 m long) occurs approximately 35 m north of the Rose dyke; it is reported to contain columbite-tantalite and amblygonite-montebrasite (Cerny et al., 1981 in Bannatyne, 1985).

Comp./Rev.	CC	PA
By Date	9-73	05-88

MANITOBA ENERGY AND MINES **MINERAL INVENTORY FILE NO. 533**

PRODUCT Tungsten **N.T.S. AREA** 63 O/4 SW **REF.** W 1

NAME OF PROPERTY:
Herblet Lake Northeast

OWNER OR OPERATOR AND ADDRESS
1988 - Nor-Acme Gold Mines Limited
P.O. Box 577
Flin Flon, Manitoba
R8A 1N4

OBJECT LOCATED Centre of Scheelite 7 **Mining Division** The Pas

Lat. 55° 00.50' Long. 99° 49.00' UNCERTAINTY: 500 m

Sec. Tp. 69 R. 16 WPM

DESCRIPTION OF DEPOSIT

Scheelite occurs in Precambrian biotite gneiss near an intrusion of pegmatite. It is found in a quartz-filled shear zone which strikes 025° and dips 50°S. The shear is about 31 m (100 ft) long, containing quartz for at least half that length. Vitreous grains and streaks of scheelite occur for a minimum of 6 m (20 ft) across a width of 0.6 m (2 ft) or more. Wallace (1925) reported scheelite in gold-bearing pegmatites. Some gold was found during prospecting.

HISTORY OF EXPLORATION AND DEVELOPMENT

The deposit is located less than 2 km south of the tip of the Northeast Arm of Herblet Lake, on the western shore. Provincial Road 393 and the railway are approximately 7 km southeast of the Osborne Lake Mine.

Scheelite was discovered here by J. Nutt while he was working the adjacent property for gold (Rice Lake, Corporation File). In 1928, Scheelite (44321) and Tungsten (44320) were staked by Jack Nutt and C. K. Langford, respectively. They were assigned to Jack Nutt Mines Limited in 1929. Trenches were dug on each claim that year. Both claims were cancelled in 1930.

W. Cote staked Scheelite 6, 7 (P 5344, 5) in the same vicinity in 1939. Rice Lake Gold Mines Limited optioned the Scheelite claims. Assays of up to $26.25 gold were reported across 0.6 m (2 ft) but other assays were much lower (Northern Miner, December 12, 1939).

Tungold Mines Limited controlled the Scheelite group. A 6 kg (14-lb) sample taken from 23 kg (50 lbs) of grab samples yielded 0.75% WO_3 and "0.15% per ton" Au (Rice Lake, Corporation File). In 1940, Tungold sent a 7.7-8 kg (17-18 lb) sample to Ottawa which assayed 4.49% WO_3. F. Shepherd and J. Drybrough, Manitoba Mines Branch Engineers, examined the prospect that year.

Associated minerals or products of value
gold.

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

Drybrough stated that J. Nutt, president of Tungold, reported bulk sample assays of 2.14% WO_3 to 4.49% WO_3. Channel samples reached a maximum of 1.42% WO_3 across 114 cm (45 inches) according to Nutt. Drybrough took 7 samples from the property. One contained 0.22% WO_3 over 0.6 m, the rest yielded no tungsten trioxide. Drybrough did not find the deposit to be "of economic importance" (Tungold, Corporation File). The Scheelite and Tungsten groups were cancelled in 1940.

The property was staked several times subsequent to 1940, but no work was ever reported on the tungsten deposit.

Canadian Nickel Company Limited did an aeromagnetic survey over the area around 1948-1951, and an airborne electromagnetic survey in 1957 (Non-confidential Assessment File Nos. 91614, 91624).

Rita Nos. 6-8 (P 70210-12) were staked in the area around 1959. In 1960, J. Stuart McDiarmid staked Din Nos. 24-27, 31 (P 85927-30, P 85934) and assigned the claims to Hudson Bay Exploration and Development Company Limited (H.B.E.D.) soon after. The claims were probably cancelled in 1963 (Mining Claim Map).

In 1969, CB 279 and CB 280 comprising 627 ha were staked by Joseph St. Godard and assigned a few months later to H.B.E.D.. A Turam electromagnetic survey was carried out in 1970, and diamond drilling work was reported in 1972. The claim was cancelled around 1973 (Mining Claim Map).

CB 10714 (Bur 10714), area 259 ha, was staked for H.B.E.D. by L. Fast (assisted by J. Crait and L. Mercredi) in 1980. It was cancelled in 1982. The area was examined by the Manitoba Government in 1984.

In 1987, Let 4 (P 3279E) was staked by G.B. Custer (assisted by H. Custer) for Nor-Acme Gold Mines Limited.

REFERENCES

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Bailes, A.H., 1975, Geology of the Guay-Wimapedi lakes area; Manitoba Department of Mines, Resources and Environmental Management, Mineral Resources Division, Geological Services Branch, Publication 75-2, 104p.

Eardley-Wilmot, V.L., 1943, Summary of known tungsten occurrences and deposits in Canada, Manitoba and Saskatchewan; Manitoba Mines Branch, Unpublished Information File (63O/4SW).

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Manitoba Mines Branch:
- a Annual Report on Mines and Minerals; 12th-p. 81; 13th-p. 89; 15th-p. 54; 16th-p. 95; 17th-p. 41; 18th-p. 75.
- b Corporation Files; Manitoba Basin Mining Co. Limited; +Rice Lake Gold Mines Limited; +Tungold Mines Limited; Wolverton Lake Gold Mines Limited.
- c Non-confidential Assessment Files; File Nos. 91499, 91614, 91624.
- d Unpublished Information Files; +630/4 SW; +63J/13.

Quinn, H.A., 1955, Nelson House (Marginal Notes); Geological Survey of Canada, Map 54-13.

Wallace, R.C., 1925, Relationships in mineral deposits in northwest Manitoba; Economic Geology, v. 20, p. 431-441.

MAP REFERENCES

Map 630, Nelson House, (Topographic), Scale 1:250 000, Surveys and Mapping Branch, Ottawa.

*Map 2567G, Wimapedi Lake, (Aeromagnetic), Scale 1:63 360, Manitoba Mines Branch and Geological Survey of Canada.

Map 36563G, Nelson House, (Airborne Gamma Ray Spectrometry), Scale 1:250 000, Province of Manitoba and Geological Survey of Canada (1978).

Map 77-1985, West-Central Manitoba, (Lake sediment and water geochemical survey), Scale 1:250 000; GSC Open File 1212, Geological Survey of Canada (1985).

Map 1801, Reed-Wekusko lakes region, (Geology), Scale 1:126 720 - Accompanying Memoir by Alcock (1920), Geological Survey of Canada.

Map 268A, The Pas sheet, (Geology), Scale 1:506 880, by J.F. Wright, Geological Survey of Canada (1934).

Map 54-13, Nelson House, (Geology), Scale 1:253 440 - Accompanying Marginal Notes by Quinn (1955), Geological Survey of Canada.

Map 1969 B-3, Wimapedi Lake (west half), (Geology), Scale 1:36 000 - Accompanying Marginal Notes by Bailes (1969), Manitoba Mines Branch.

Map 75-2-1, Guay-Wimapedi lakes area, (Geology), Scale 1:50 000 - Accompanying Publication by Bailes (1975), Manitoba Mineral Resources Division.

#Claim Map Series 630/4 SW, Scale 1:31 680, circa 1940, Mining Recording, Manitoba Mines Branch.

NAME OF PROPERTY
Herblet Lake Northeast

N.T.S. AREA 63 O/4 SW

FILE NO. 533
REF. W 1

REMARKS

Manitoba Basin Mining Co. Limited may have been interested in Tungsten claims (Tungsten Nos. 1-9, P 5330-5338) or, as they were called after restaking, the Lucky Strike group (Lucky Strike Nos. 1-8, P 5983-5990) (Rice Lake Gold Mines, Corporation File). Parts of the old Tungsten claims were restaked under Milbourg Nos. 3-6 (P 22128-31) in 1951?; Slip (P 29177); Rita and Din group of claims in 1960-1963; CB 281 in 1969-1976; CB 9080 in 1978-1982. H.B.E.D. explored the area in 1960-1976; Granges Exploration Aktiebolag in 1978-1982.

Shepherd (Manitoba Mines Branch, Unpublished Information File, 63J/13NW) reported assays ranging from 0.019% to 0.334% WO_3 from property belonging to C. Springer "at the north end of Herblet Lake" 91 m (100 yards) west of the western shore. The 0.6-m (2-ft) channel samples were taken every 1.5 m (5 ft) for a length of 6 m (20 ft) (see also: 63J/13 AU 20).

Comp./Rev.	SMH	PA
By Date	09-76	07-88

MANITOBA ENERGY AND MINES **MINERAL INVENTORY FILE NO.** 530

PRODUCT Lithium **N.T.S. AREA** 63 O/3 SW **REF.** LI 1

NAME OF PROPERTY:
Missipisew River

OWNER OR OPERATOR AND ADDRESS
1988 - Open

OBJECT LOCATED Centre of Spod 3
Centre of Lithium 8

Mining Division The Pas

Lat. 55° 04.96' Long. 99° 25.41' **UNCERTAINTY:** 500 m
55° 03.50' 99° 23.56'

Sec. Tp. 70 R. 13 WPM

DESCRIPTION OF DEPOSIT

A: Precambrian pegmatite, containing spodumene, lepidolite, and books of muscovite up to 10 cm (4 inches) across, cuts biotite-feldspar gneiss. Greisen along the margins of the pegmatite was reported to assay up to 0.5% Sn (see Remarks).

B: Spodumene occurs in Precambrian granitic rocks.

HISTORY OF EXPLORATION AND DEVELOPMENT

Two lithium showings are described by Quinn (1957, p.30). They have been designated A and B below, with corresponding designations in Description of Deposit. The village of Ponton is about 51 km southeast of the area.

A: 'Leslie showing', Quinn's showing No. 65. Located about 4 km east of the Missipisew River. LI? symbol on Map 54-13.

Year	Activity
1955	Spod Nos. 1-10 (P 35079-88) staked by R. Leslie.
1956	Assigned to M. Phillet. Trenching reported.
1957	Cancelled.

This showing "is thought to be the one reported and described to the writer by P. Kobar at Snow Lake in September 1953. He stated that he had put down a trench 8 feet (2.4 m) wide and 10 feet (3 m) long in 1918 but he could not find this in the summer of 1953" (Quinn, 1957, p. 30). A chip sample of the pegmatite assayed 4% Li_2O.

B: 'Kobar showing', Quinn's showing No. 66. Located about 6 - 8 km (4 - 5? miles) east of the Missipisew River.

Associated minerals or products of value
tin.

HISTORY OF EXPLORATION AND DEVELOPMENT cont'd

Year	Activity
1955	Lithium Nos. 1-18 (P 34981-98) staked by A. Kobar.
1956	Trenching reported on Lithium Nos. 7-15. Lithium Nos. 1-6, 16-18 cancelled.
1957	Lithium Nos. 7-15 cancelled.
1960?	Hawk Nos. 1-4 (P 65925-28) staked over Lithium Nos. 7, 9, 10, 12 area. Hawk group cancelled (Mining Claim Map, circa 1960).

In 1961, the area was partially covered by Wim 327, 328 (P 88598-99) and Wim 336 (P 88440) staked by Rudolph E. Puls and Michael Muzylowski, respectively, over the old Lithium 2, 5, and 8 claims. The claims were assigned to Hudson Bay Exploration and Development Company Limited (H.B.E.D.) that year, and an airborne survey was done. The claims were cancelled around 1963.

Airborne surveys carried out over the two lithium showings are shown in Table 1.

Table 1. Airborne surveys 1957-1964.

Airborne Permit	Year	Company	Survey	Non-Confidential Assessment File No.
AP19	1957	Canadian Nickel Company Limited	AEM	91624
AP20	1958	Newmont Mining Corporation of Canada Limited	AEM/AMAG	90002
AP33	1961	H.B.E.D.	AEM/Radiometric	91628
AP51	1964	Canadian Nickel Company Limited	AEM	91649

The Manitoba Government began a geological survey of the area in 1978.

REFERENCES

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REMARKS

Quinn's description of Showing A is unclear as to whether it pertains to the Spod claims or to the showing found in 1918 by P. Kobar. The latter is probably the one described by Quinn, who presumed that the Spod claims were later staked over it (Quinn, 1957, p. 30, No. 65). Hence it is possible that the geological description may be inaccurate for the Spod claims if they did not overlie the earlier showing.

"Beryl is reported in dykes of granitic pegmatite in sedimentary gneiss five miles (8 km) or so south of the Leslie showing" (Showing A) (Quinn, 1957). It is shown on Map 54-13 as "Be?".

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MANITOBA ENERGY AND MINES **MINERAL INVENTORY FILE NO.** 613

PRODUCT Beryllium **N.T.S. AREA** 64C/7 SE **REF.** BE 1

NAME OF PROPERTY:
Granville Lake

OWNER OR OPERATOR AND ADDRESS
1988-Open

OBJECT LOCATED: Location point on Map 61-5 **MINING DIVISION** The Pas

Lat. 56° 16.5' Long. 100° 37' **UNCERTAINTY:**

Sec. Tp. 84 R. 20, 21 WPM

DESCRIPTION OF DEPOSIT

"The dyke is 16 feet (5 m) wide, and cuts Sickle arenites. It consists of a coarse graphic intergrowth of microcline-perthite and quartz, with scattered books of muscovite up to 2 inches (5 cm) across, and minor biotite. It strikes S55°E and was exposed only because of the low water level of Granville Lake during August 1961. The pegmatite contains a few red-brown garnet crystals and small disseminated grains of a hard gray metallic mineral, which yields a red powder when crushed and might be cassiterite. Scattered, irregularly shaped quartz lenses in the core zone of the dyke are about one foot (0.3 m) wide, and contain hexagonal crystals of beryl, apatite, and tourmaline, as well as small books of a pale greenish yellow mica. Beryl crystals are well-formed, pale yellow-green in colour, up to 2 inches (5 cm) across and 6 or more inches (15 or more cm) long. Black euhedral tourmaline crystals are up to 3/8 inches (0.95 cm) across and 3 inches (7.6 cm) long. Apatite crystals are well-formed, blue-green in colour and up to 1/2 inch (1.3 cm) across.

It is doubtful that the beryl content of the dyke is sufficient to be of economic value. However, numerous large and small pegmatite intrusions exist in the Watt Lake area, and prospecting of these for beryllium and lithium minerals and other minerals of pegmatitic association is suggested." (Cranstone, 1968).

Cameron (1981) reported "a cluster of about a dozen pale milky green beryl crystals up to 1 by 3 cm in size" covering an area of about 6 cm^2, in a dyke located 500 m west of Cranstone's pegmatite.

According to Bannatyne (1985), "Cameron noted a minor amount of yellow beryl in other, small pegmatites transecting meta-arkose, 400 m west of Cranstone's pegmatite and on the same island. A small concentration of beryl crystals was noted near the quartz core of the largest of these tourmaline-rich pegmatites".

Associated minerals or products of value

HISTORY OF EXPLORATION AND DEVELOPMENT

The pegmatite dyke containing beryl was found by Donald A. Cranstone (1968) in August, 1961 on the south side of an island in Granville Lake, near the south boundary of the map-area (Map 61-5). The island is located approximately 2.4 km northwest of Pickerel Narrows (see Figure 1). Cranstone (pers. comm., 1961) stated that beryl was found in a pegmatite dyke, 5 m (16 ft) wide, with an exposed length of about 31 m (100 ft).

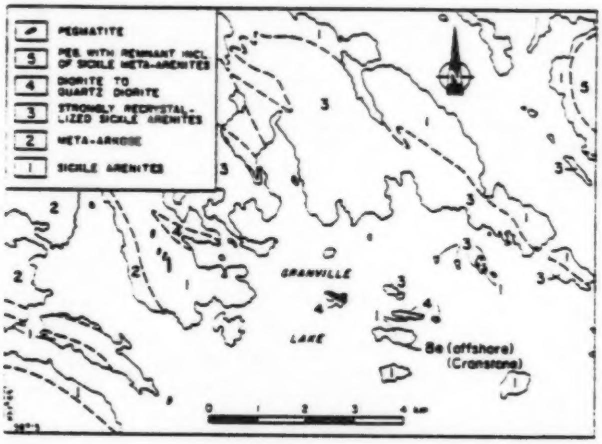
PEGMATITE
5 PEG WITH REMNANT INCL OF SICKLE META-ARENITES
4 DIORITE TO QUARTZ DIORITE
3 STRONGLY RECRYSTALLIZED SICKLE ARENITES
2 META-ARKOSE
1 SICKLE ARENITES
GRANVILLE
LAKE
Be (offshore) (Cranstone)
0 1 2 3 4 km
1
2
3
4
5

Figure 1: *Granville Lake beryl-bearing pegmatite (from Cranstone, 1968).*

(Source: Bannatyne, 1985:80).

The eastern portion of the island was staked under CB 2965 by A.F. Olson for Hudson Bay Exploration and Development Company Limited in 1971. A horizontal loop EM survey was done. The 251 ha claim was cancelled in 1974.

The area was re-examined by the Manitoba Government (Geological Services Branch) in 1981 and 1982. Cranstone's pegmatite was not located due to high water levels, although several small occurrences of beryl were discovered in the area (Cameron, 1981).

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